ARE RAILROADS LAGGING? AN OPEN LETTER TO LBJ .....p. 66

APRIL 18, 1966

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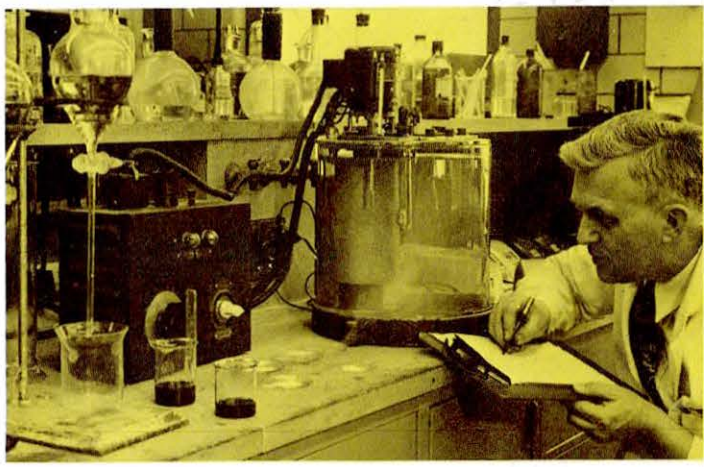


RAILROAD RESEARCH

The story that nobody (at least in Washington) seems to know

p. 18

FROM

IDEA

TO

DESIGN

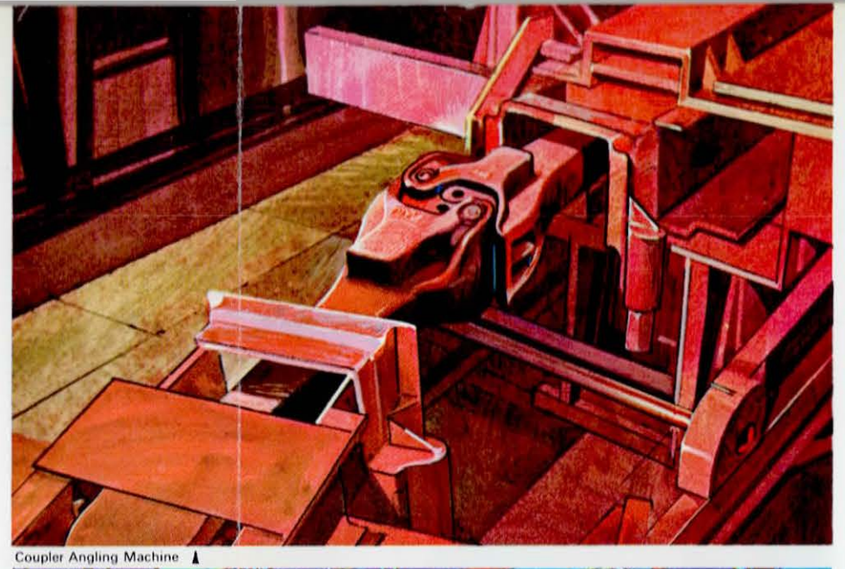
TO

PROTOTYPE

TO

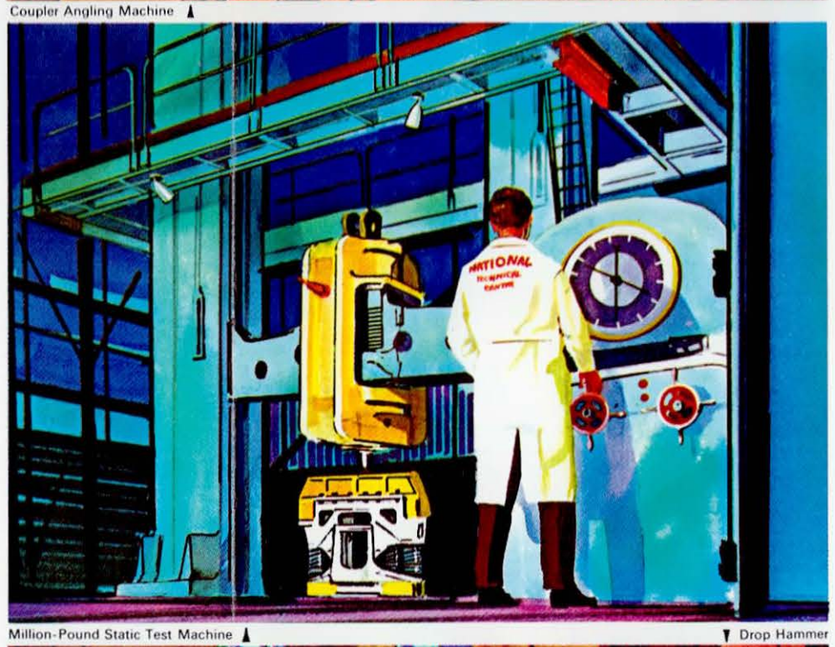
HARDWARE

Field and Technical Service



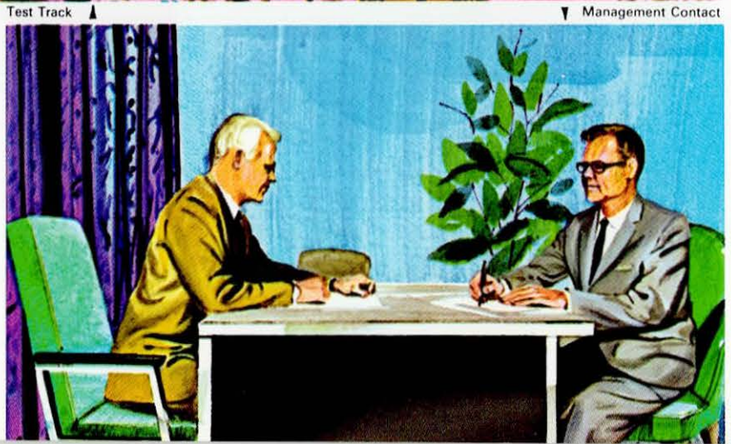
Coupler Angling Machine

Test Track



Million-Pound Static Test Machine

Drop Hammer



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RAILWAY AGE

April 18, 1966 • Vol. 160, No. 15

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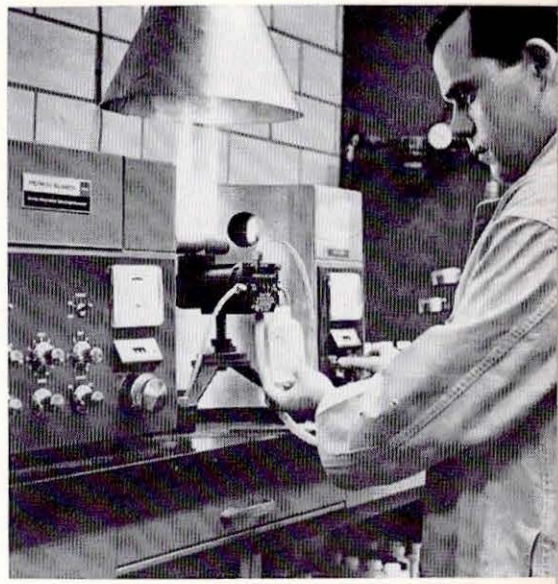
RAILROAD RESEARCH



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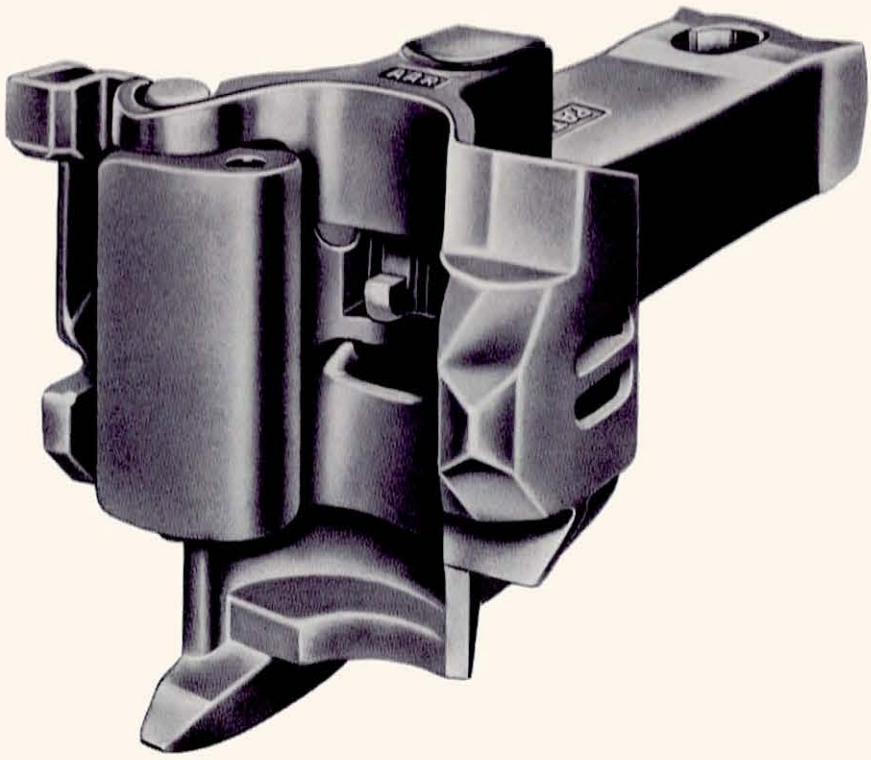
Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published weekly (except for four issues combining two-in-one) by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn.
Railroad employees' subscription rate: U. S. possessions, Canada and Mexico, $6 one year, $8 two years, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year. In other countries, $15 a year. Single copies 60¢ except special issues. Address all subscriptions, changes of address and correspondence concerning them to Subscription Dept., Railway Age, Emmett St., Bristol, Conn. 06011.
Change of address should reach us three weeks in advance of next issue date. Send old address with new, enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.; John Rogers, Circulation Manager, 30 Church St., New York, N. Y. 10007. POSTMASTER—SEND FORM 3579 TO EMMETT ST., BRISTOL, CONN. 06011.
Printed at the Wilson H. Lee Co., Orange, Conn. 06477. Second-class postage paid at Orange, Conn. and at additional mailing offices.



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SHORT AND SIGNIFICANT

Bill would delay state train-offs

Sen. Clifford P. Case (R-NJ) has introduced a bill to give states more time to consider railroad applications for authority to abandon intrastate trains. The bill would amend the Interstate Commerce Act's Section 13a (2) to increase to six months, from four months, the time allowed states to act before an intrastate abandonment proposal can be taken to the ICC. "Four months may seem like a long while," Case said in introducing the bill. "But it is really quite limited, particularly if a carrier is not cooperative in providing data on its profits and losses, and if the public has difficulty in finding a railroad-oriented cost accountant to examine and make sense out of the carrier's balance sheet."

●

Murray proposes new merger approach

Soo Line President Leonard H. Murray would like to see a change in the way the ICC considers merger proposals—a change perhaps playing down the legalistic aspects and playing up the economic angles. As Murray sees it, "It is essential that merger proceedings be redesigned so that the complex economic and competitive factors be fully and comprehensively explored. Perhaps the ICC should be authorized to engage a panel of independent economists and disinterested transportation specialists to study the comprehensive economic and competitive factors of each merger in relation to the merger picture as a whole and file a recommendation relative to these areas for consideration by the ICC . . . until we have this kind of pre-analysis of post-merger competitive conditions, we cannot be assured that the new economic configuration of our railroad system will be inherently able to preserve and enhance the values of competition that have produced our post-war revolution in railroading."

●

Air buses for travel in the Northeast Corridor?

The Department of Commerce, which is currently sponsoring a $90-million project to develop high-speed ground transportation in the Northeast Corridor, is also looking into the feasibility of moving people in that area by air. The department has just released a study done for it by the Flight Transportation Laboratory of the Massachusetts Institute of Technology which discusses the possibility of developing an air bus system, with vertical take-off and landing air craft (VTOL) capable of landing on roof tops of terminal buildings or two-acre sized airports. MIT says the system, which could be in operation sometime in the 1970's, could be developed for a total investment of about $500 million. It proposes use 65 80-passenger VTOL craft to provide service to all major cities in the Northeast Corridor at fare levels of about 5 cents per mile for flights of 100 miles.

●

First of Census Bureau reports on shipments

The first of 19 reports to be issued on production areas in the nation—this one covering the Chicago, Ill., and Gary-Hammond-East Chicago, Ind. region—has been released by the Bureau of the Census. The report is one of a series on the 1963 Commodity Transportation Survey. Trucks hauled a larger percentage of the tons of shipments than any other type of transport, but railroads led in ton-miles. The switch in relative position between means of transport was due to the longer average distance haul of rail (335 miles) compared to motor carriers (234 miles).

MONDAY MORNING REPORT

ACI ground rules—here at last

What railroads want in the way of an automatic car identification system was spelled out on April 7 after five years of research, development and discussions. Functional requirements and operating specifications for an ACI system were released by the AAR's Research Center and the Data Systems Division. Now the many manufacturers, who have been shooting in the dark for an acceptable ACI system, have something to aim at. But time is short. Suppliers have only until June 30 to file proposals for ACI systems with Carl L. Byham, executive director of the AAR's Data Systems Division in Washington. After initial screening by this Division, selected design plans will be sent to the AAR Research Center in Chicago for further evaluation and testing.

Cost limits: $10 per car, $10,000 per scanner

The ACI system will consist of a wayside scanner and decoding device, and a label to be applied to rolling stock, including freight and passenger cars, locomotives and cabooses. The specification states: "The maximum cost of the wayside device in standard form should not exceed $10,000, installed. The cost of the rolling stock device or label should not exceed $10.00 per car, installed. The wayside scanner must be capable of reading car labels moving in both directions, and in the speed range between "in motion" to 80 miles per hour. The scanner output must be an electrical signal in digital form in conventional code formats. This electrical signal must be recorded in real time at the bit rate produced by the train motion. This device must be capable of storing these signals for later transmission at 60, 75 or 100 words per minute—as specified by the purchaser. Temporary storage capacity must be sufficient for at least two 200-car trains.

Trackside label-installation is necessary

For freight cars, the label will contain four letters and six numerals, as well as a check digit for testing the validity of the reading. The label must be capable of being installed in typical train yard location without requiring special movement to service tracks. Accordingly, each label must be readable visually for ease of assembly, checking, and maintenance after installation. Reliability is the essence of the AAR requirements. The specification states "the [maximum] permissible recording error rate for undetected erroneous car reporting marks is 1 in 250,000 labels. The permissible error rate for detected and marked errors, those failing the validity check, is 1 in 1,000 labels."

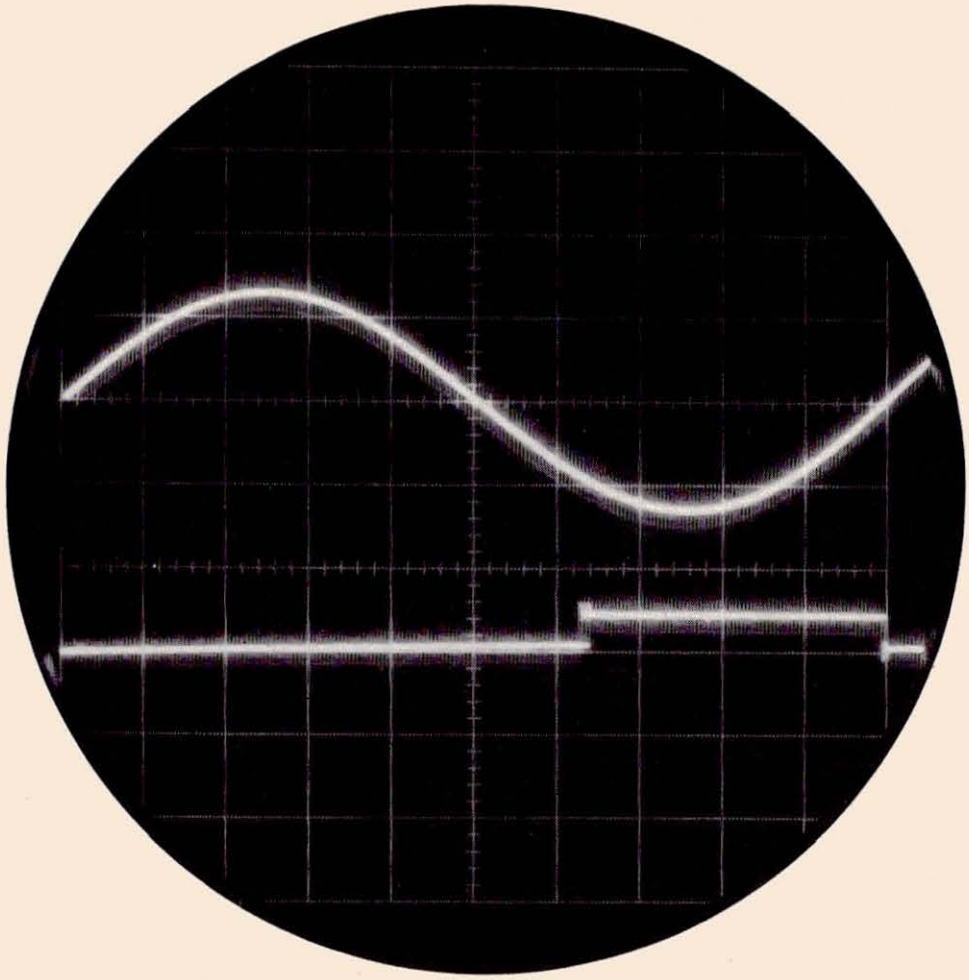
Custom-tailoring ACI

Major modifications to the ACI specifications may be requested by the purchaser. Such modifications include labeling and scanning for highway trailers, vans, containers, or stacked containers for transporting on flatcars. The scanner need not be the same device that identifies the normal rolling stock. However, the logic portion of this scanner must coordinate readings from such optional labels in such a manner that the load may be readily identified with the appropriate freight car. Other modifications include ACI operation in conjunction with weigh-in-motion scales, various car protective devices, and additional information encoded on a rolling stock label.

The ACI race is on

Intensive work has already been done on ACI systems by several manufacturers. For example, systems now in service or under test include those made by American Brake Shoe Co., General Electric Co., Sylvania Electric Products Inc., and Union Switch & Signal division of WABCO. The move by the AAR should trigger a flurry of proposals and systems. Then the really big decisions will be squarely up to the railroads.

GRS ELECTRONICS AT WORK...



Notch up the throttle!

This is an electronic command (it takes an oscilloscope to see it). Commands like these control a locomotive automatically. They are generated by a GRS computer-electronic control package called TMU, for "Train Multiple Unit-er."

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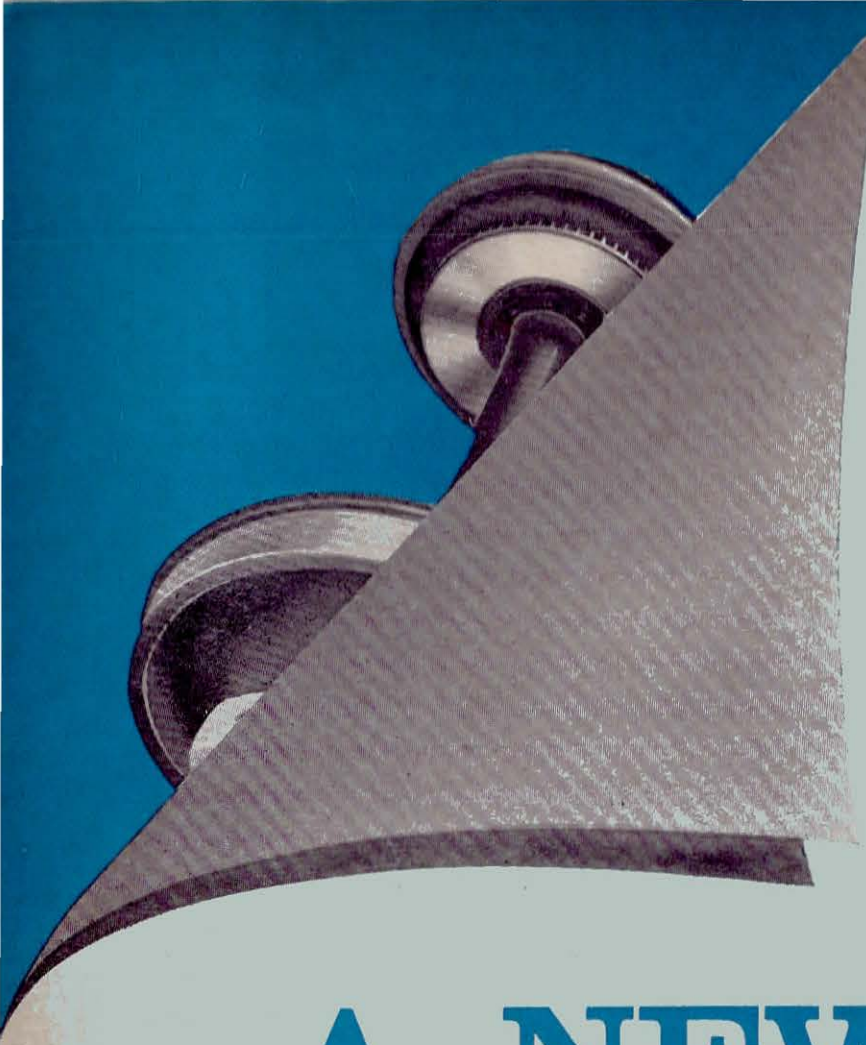

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WEEK AT A GLANCE

BRT sets a goal: 25% wage increase

Railroads will have one more massive wage demand on their hands as of mid-July—from the Brotherhood of Railroad Trainmen, which will ask for a 25% boost in basic daily and hourly rates. BRT general chairmen have also decided to demand a cost-of-living adjustment clause, guaranteed schedules for road and yard service, two additional paid holidays and an improvement in insurance coverage. The decision to go for 25% on wages puts the trainmen right up with the Brotherhood of Firemen & Enginemen, which served demands for a 25% increase earlier this year. Other unions, thus far, have scaled their demands somewhat lower—among them the Brotherhood of Railway Clerks, largest of the non-ops, which wants 18%.

The Trainmen try again—and lose again

The Brotherhood of Railroad Trainmen would like to see a unification of all train-service employees—but, apparently, it's not going to come about through the BRT's overpowering the Order of Railway Conductors & Brakemen and the Switchmen's Union of North America. The BRT did no better than break even against its much smaller rival in 1965, and now the BRT has lost a big one in '66—an election in which the Trainmen challenged for representation rights for road brakemen on Great Northern. The ORC&B was defending—and the ORC&B came off a winner, by a big margin. The final count: ORC&B 811, BRT 304; and one vote for the Teamsters. Nobody cared to explain the Teamster vote—but the ORC&B hailed the outcome, BRT said little.

Railroad purchases highest since 1957

Railroad spending for fuel, materials and supplies in 1965 added up to an increase in the total bill for the fourth straight year. According to figures compiled by the AAR's Bureau of Railway Economics, the railroads spent $1,498,059,000 for everything from nuts and bolts to stationery—up 2% over the 1964 total of $1,475,599,000. The new spending total, while reflecting the continuing increase in rail traffic, was still one third less than the 1948 spending high of $2,183,-331,000. The purchasing figures for 1965 don't include the record spending of $1,633,494,158 for new rolling stock and capital improvements, up 15.3% from 1964. This included nearly $1.3 billion for 1,440 locomotives and 68,000 freight cars, plus $337 million for such improvements as push-button freight classification yards, new signal and communications equipment, and track maintenance machines.

The fuel bill showed the greatest single increase, up $9.5 million over 1964. Iron and steel products cost the carriers an additional $9.4 million, while spending for miscellaneous supplies, such as building materials, ballast, office and train supplies, was the only category in which a decrease was recorded.

1965 PURCHASES

Fuel, Materials and Supplies

Commodity	1965	1964*
Fuel	$374,288,000	$364,781,000
Forest Products	103,655,000	97,213,000
Iron and Steel Products	446,925,000	437,459,000
Miscellaneous	573,191,000	576,146,000
TOTAL	**$1,498,059,000**	**$1,475,599,000**

*Amounts shown for 1964 include $7,935,000 spent by 16 railroads not reporting as Class I railroads in 1965 owing to reclassification by ICC.

Erie Lackawanna off to a good earnings start

Stockholders of the Erie Lackawanna heard last week that their railroad scored some gains in the profit column for the first three months of this year. While it won't mean any dividend checks in the mail, the news from E-L Chairman William White was encouraging just the same. The road's expected first quarter profit this year is in contrast to 1965's first quarter net loss of $1,437,763. Last year, the financially-troubled railroad showed a net income of $3,290,788—a remarkable gain, considering that in 1964 the road ran into the red for a total of $8,268,194.

All is not clear sailing, however. E-L owes some $11.8 million in interest on bonds, and is still saddled with deficit-ridden passenger operations. Some stockholders at last week's meeting urged the railroad to withdraw or amend its petition to become part of the expanded Norfolk & Western system, since Wall Street sources are predicting more profitable years ahead for the E-L. But Chairman White said the road's plan for merger takes into consideration future earnings prospects, and that E-L should press for immediate inclusion in the N&W system.

Control of B&M up for vote

Boston & Maine stockholders were waiting late last week to learn who was going to run the railroad for the next year, following balloting at the annual meeting. Daniel A. Benson, president of the holding company and the railroad it owns, and an insurgent group, led by a New York lawyer, headed management groups vying for control of the railroad.

GUS WELTY'S LINES ON LABOR

WELTY

POST-MORTEMS on the strike by the Brotherhood of Locomotive Firemen & Enginemen aren't just being done by railroads. They're also being done by other rail labor organizations. And there are strong evidences that the other brotherhoods don't much like what they see—from a number of angles. The attitude of the Brotherhood of Locomotive Engineers can, perhaps, be discounted. The BLE and the BLF&E are battling, the strike had aspects of a jurisdictional squabble and the BLE could be expected to take a dim view. It's the attitude elsewhere in rail labor that is really more interesting—and more meaningful.

BLF&E PICKET LINES were, for the most part, respected. But that's only natural, at least in the beginning. Most unions count on it. Constitutions are written to permit it and to protect everybody—the union against violation of its contracts, the members against "violence" on the picket line. But this isn't really the point. The point—the one the unions are examining—concerns the damage the BLF&E strike may have done to efforts under way to make management-union agreements in an atmosphere where needs are recognized and where the strike is a last resort to be rarely touched.

THE BROTHERHOOD of Railroad Trainmen, for instance, might have found some reason for striking when the award of Arbitration Board 282 ran out on the crew-consist issue. But the BRT didn't strike. It's tried, through the Railway Labor Act, to progress its Section 6 notices for rules requiring a 1-and-2 crew—one conductor and two brakemen.

THE BRT HAS AGREEMENTS with more than 30 eastern roads on consist. Hotheads among the membership would say the union should have struck western and southeastern roads that haven't gone along. But, thankfully for responsible union leadership, the hotheads haven't ruled. The BRT is pushing for what it wants, still. But, with President Charles Luna calling the shots, it's doing it through negotiation.

MEDIATION has been recessed for consideration on three roads; mediation is to begin on four others later in April. It could well be that the BRT, at some point, may call a strike on some road on a crew-consist issue. But it seems extremely doubtful if any such strike would be called before procedures of the RLA have been rather thoroughly explored.

THE POINT IS that some unions are going to use the full procedures of the Act and some aren't. And that some unions have more regard than others for maintaining a labor-management dialog —whether the members know it as such or not. The BLF&E strike did nobody a favor—and that includes BLF&E members.

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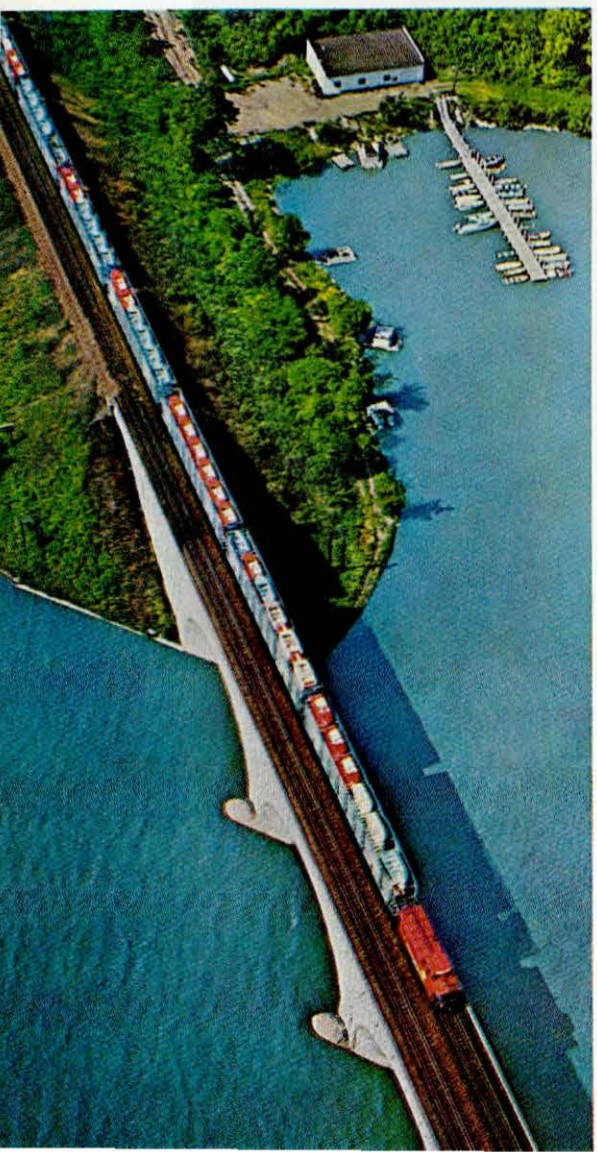

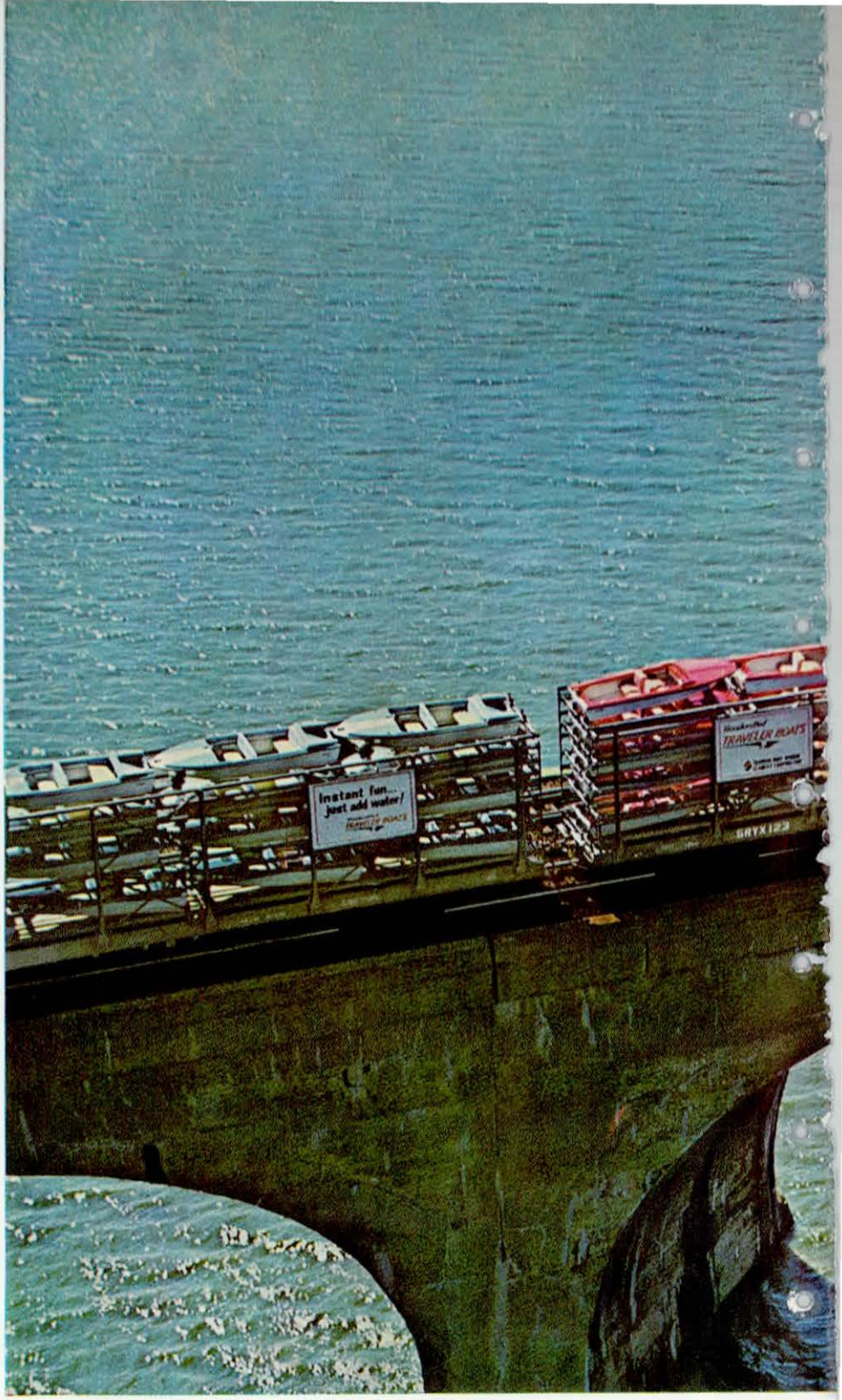

Now, even boats are taking the train

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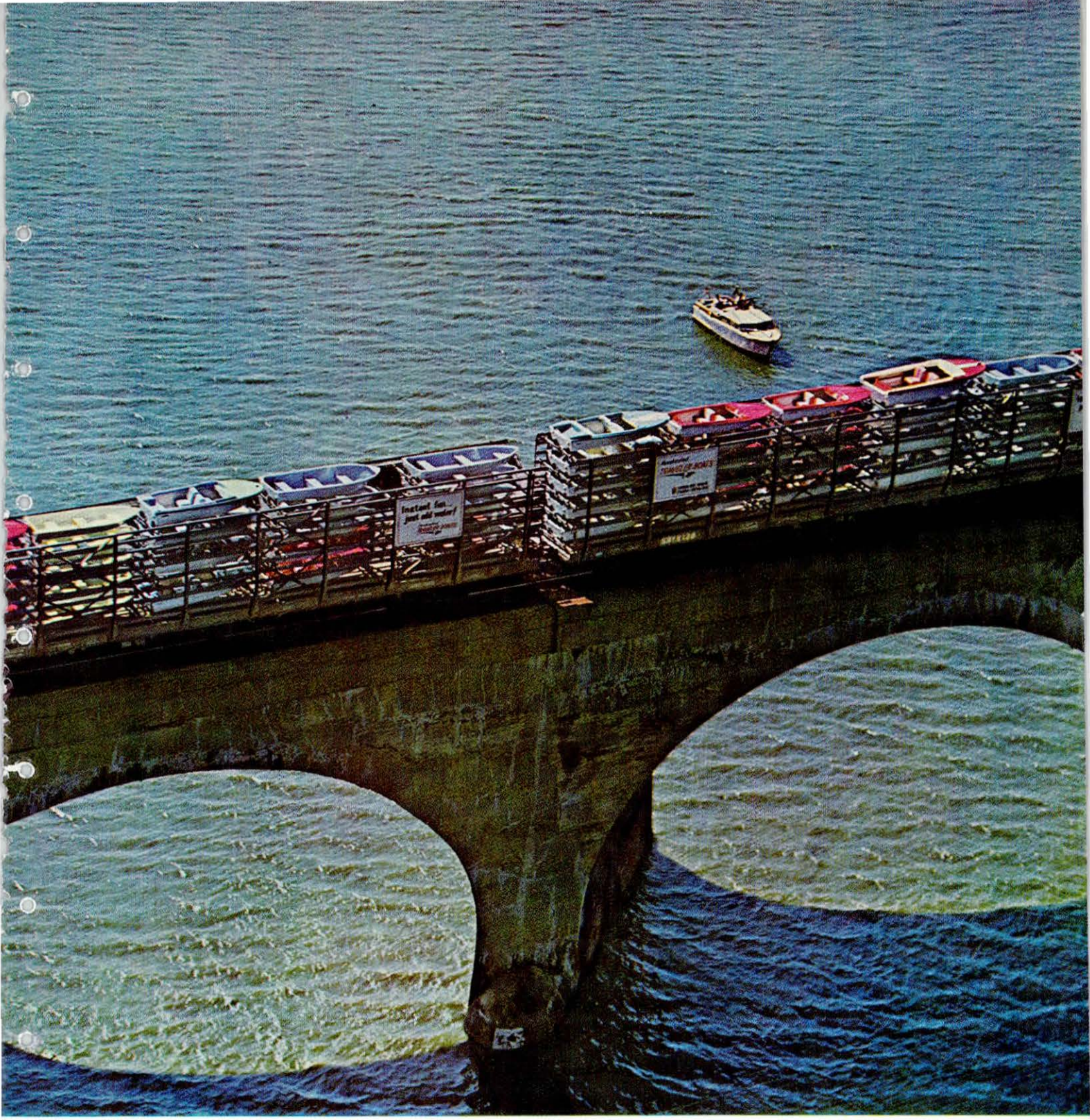

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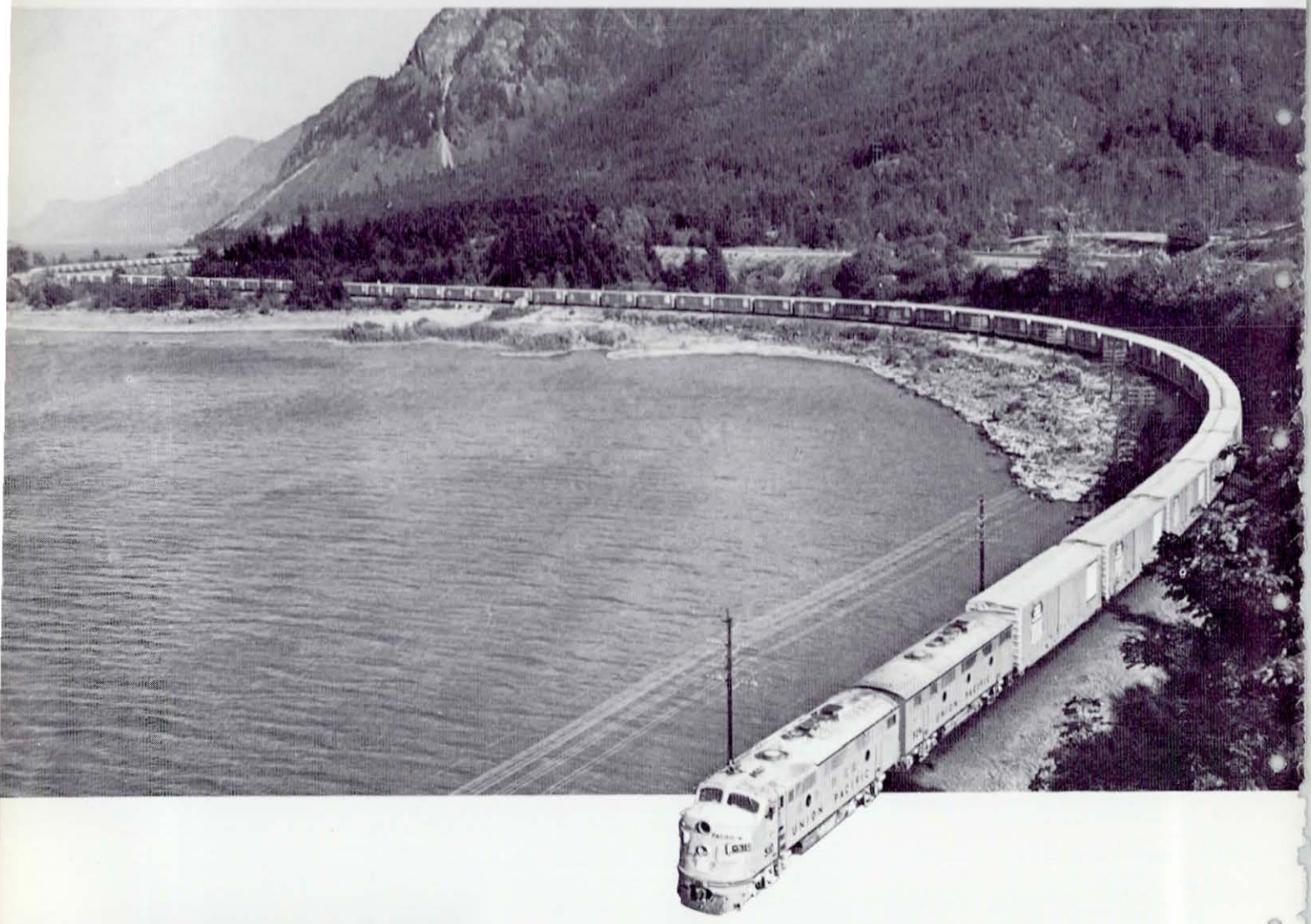

GSI one-piece cast steel underframe ends for box and refrigerator cars resist the impact created by today's longer and faster trains. They eliminate body bolster failure, never need repair or maintenance, quickly pay for themselves.

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Engineering groups plan transport sessions

Transportation from the ground up —railroads to jet airplanes—will get the attention of some 2,000 delegates to sessions of The Railroad Conference and the National Transportation Symposium in San Francisco next month.

The Railroad Conference, sponsored annually by the American Society of Mechanical Engineers and the Institute of Electrical and Electronic Engineers, will be held at the Jack Tar Hotel May 4-6. The 1966 Conference will be held concurrently with the closing sessions of the National Transportation Symposium, which has been organized for the first time by the ASME, IEEE and the American Society of Civil Engineers.

The Symposium, May 2-6, will deal with legislative and regulatory, as well as technical phases of rail, highway, marine and air transport. Subjects to be covered include: problems of planning for the future; operations; systems planning; future power systems; research and financing; and advanced vehicles.

Speakers during the week will include Alan S. Boyd, Under Secretary of Commerce for Transportation; Wilfred Owen of the Brookings Institution; John S. Harlee, USN, chairman of the Federal Maritime Administration; Charles S. Murphy, chairman of the Civil Aeronautics Board; and Laurence K. Walrath, commissioner, Interstate Commerce Commission.

● **Emphasis on transit.** The theme of the Ninth Joint Railroad Conference will be rapid transit. Papers will be presented on propulsion, braking systems, truck design, distribution and automatic train control.

General railway subjects will also be covered in a number of sessions. Topics include automation of heavy freight trains; unit trains; single axle trucks and articulated connections for multiple-unit high-capacity freight cars; the dynamic measurement of rail profile and related truck motion; computerized weighing of freight cars coupled in motion; stresses causing cracking of inboard axle wheel seats; and a-c drive system for m-u rapid transit service (alternatively for diesel-electric locomotives). ■

WATCHING **WASHINGTON** WITH WALTER TAFT

TAFT

WHO NEEDS POLICY DECLARATION?—Would the Interstate Commerce Act be better regulatory law if its declaration of national transportation policy were eliminated? The policy would then be embodied in the Act's substantive provisions. This would be the better way in the opinion of Howard Hosmer, retired ICC examiner, who was closely associated with the late Commissioner Joseph B. Eastman, when Eastman was a principal advisor to Congressional committees, shaping up the Transportation Act of 1940. The committees followed much of Eastman's advice, but the policy declaration went into the act despite his warning that it was "an inept and maybe an ineffective way of making law."

Hosmer states his case in an essay which received honorable mention in the 1965 Clyde B. Aitchison's essay contest. This contest, honoring the late Commission Aitchison, is sponsored by the Association of Interstate Commerce Commission Practitioners which published the Hosmer essay in the February issue of its Journal.

ORIGINAL PURPOSE FULLFILLED—Hosmer remembers how the declaration was welcomed in 1940 as "something savoring of Holy Writ." He finds this sanctity now eroded, and ventures to suggest that Congress never intended that the policy would have unchanging validity. He explains that its generally-understood purpose, now "fulfilled," was to present the ICC (which some considered "railroad-minded") from stifling motor carriers and the newly-regulated water carriers.

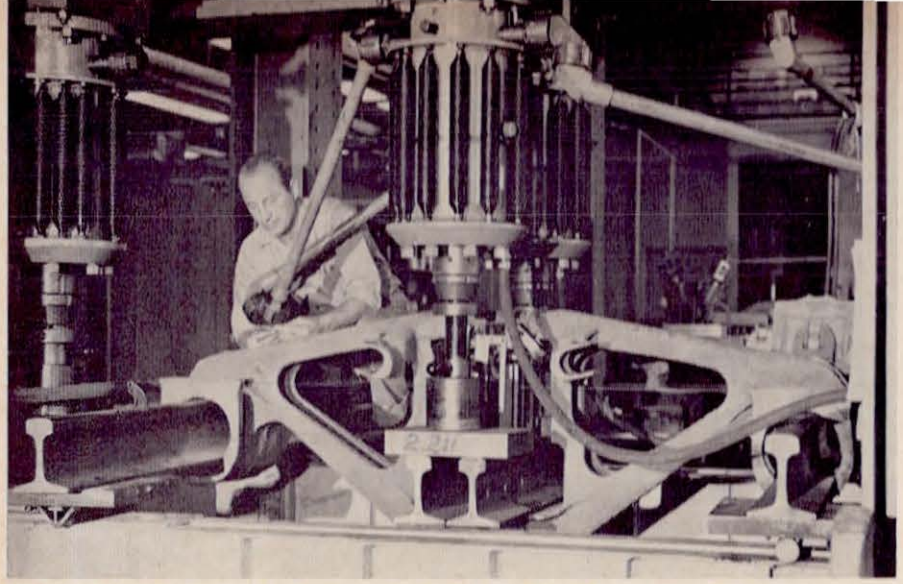
Among other things, the policy calls for the preservation of each mode of transportation's inherent advantage and avoidance of unfair and destructive competitive practices. Carrier competition has made interpretation of the latter a highly controversial matter. Before 1940, there was nothing in the Act which specifically called for avoidance of unfair or destructive competition, although the ICC had used the phrase a year earlier to condemn some railroad rates.

CONGRESS PROPOSES, COURTS DISPOSE—Concern that the policy might bring substantive changes in regulation was allayed at the time. The Senate sponsor of the 1940 Act, former Senator Burton K. Wheeler of Montana, said such declarations are generally looked upon as window dressing, Hosmer recalls. He hastens to add, however, that judicial interpreters of statutes and not their framers, have the last word. And that came nearly 23 years later—in the United State Supreme Court's 1963 decision in the New Haven case.

There the court held that the policy was not mere window dressing—but, at the same time, it did strike down an ICC order which had relied on the declaration to fix railroad piggyback rates differentially higher than competing rates of water carriers in the Atlantic-Gulf coastwise trade.

BREATH OF LIFE OR KISS OF DEATH?—Thus, as Hosmer puts it, the court breathed life into the idea that the policy is substantive only to add "something like a kiss of death" in telling how the call for avoidance of destructive competition should be applied. "It must be demonstrated," the court said, "that the proposed rates in themselves genuinely threatened the continued existence of a transportation service that is uniquely capable of filling a transcendent national defense or other public need."

All of which, plus other evidence he arrays in convincing fashion, prompts Hosmer to offer his advice that the policy should be reflected only in provisions of the Act which are its clearly substantive provisions. If a separate policy statement is nevertheless continued, Hosmer suggests that it be rewritten "to avoid ambiguity and obscurity so as not to require the Courts to determine what Congress intended, or permit them to encroach on the field of public policy which belongs to Congress and its subsidiary agencies."



USED FREIGHT CAR side frames are tested to determine areas of failure.

Railroad research sets a record pace

- **Despite some nay-sayers in Washington, railroad-supplier research and development activity is at an all-time high.**
- **Important for the industry's long-term prospects is the strong trend to more systems, market and rate research.**

Rail industry research is at an all-time high. Record research and development budgets are aimed at every facet of the glittering commercial and competitive opportunities opening up to railroads. What is even more important, perhaps, is the rate at which R&D activity is growing. It is nothing short of phenomenal. Where railroads are estimated to have spent about $7 million on R&D in 1960—they will spend almost $50 million this year and probably much more next year.

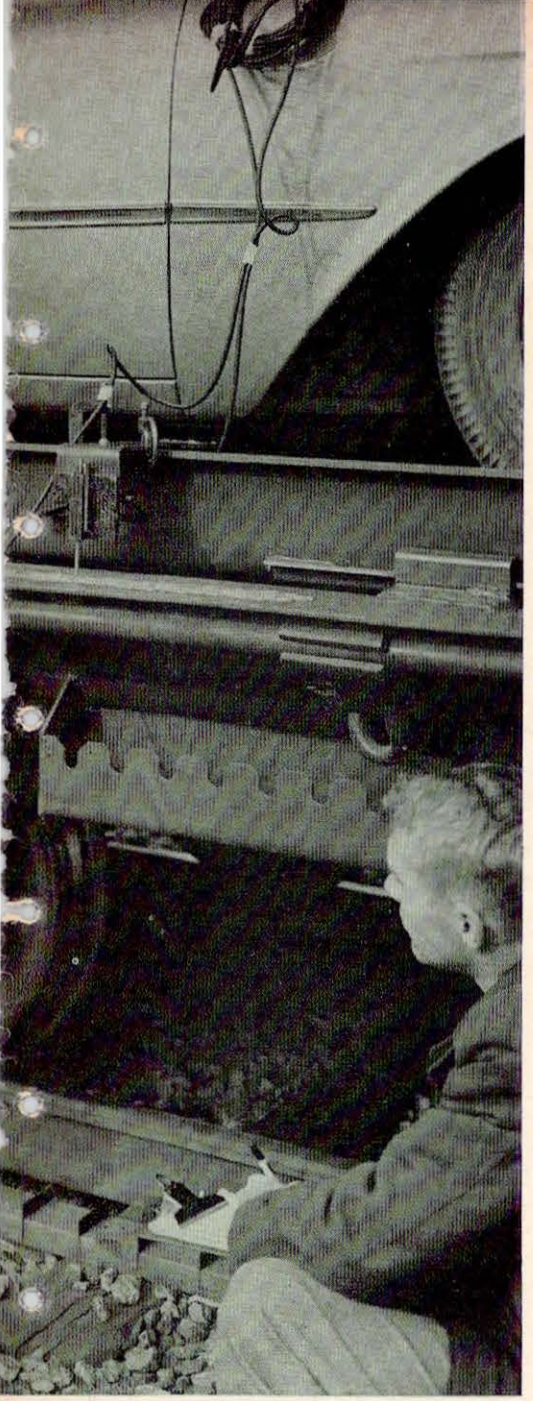
R&D expenditures on railroads, in fact, are growing at a much faster rate than R&D expenditures of suppliers, even though suppliers are investing record sums of money toward their future rail markets. There is a reason. Many supply company R&D experts describe the current situation as dominated by the need to wait for completion of carrier research into system requirements. That research, they feel, will define the configurations of plant and rolling stock that will best service industry commercial and competitive opportunities.

Says one veteran researcher in a prominent supplier's research center: "As the carriers shake down the new requirements from their current systems research efforts, you'll see nothing less than an explosion of 'black box' development in the supply industry."

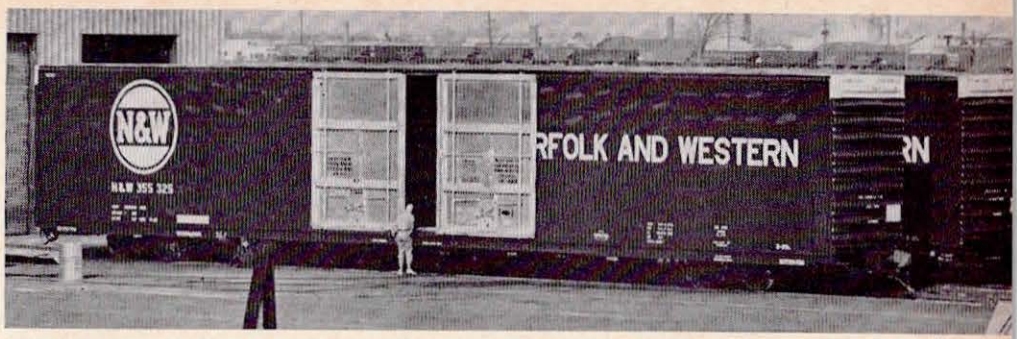
Behind the industry's soaring R&D trends are two factors. A taste of success has come from market-research programs. This, plus the somewhat greater rate freedom railroads secured since the Transportation Act of 1958, is working like a yeast as new areas of profitable operations open to railroads. Hopes are also stirring in the industry as prospects brighten for a shift in governmental promotion policies toward support of rail transportation systems after a half-century of promotion directed at the nourishment and enlargement of rail competition.

IMPACTS ON AUTO-RACK CARS are measured used to improve the design of the rack

- **Research into research.** These were highlights of a Railway Age survey of major railroads and important industry suppliers conducted for the past two months. Backing up Railway Age's research into the nature and magnitude of rail industry R&D were three similar surveys conducted in recent years: a Railway Age appraisal in 1960, a National Academy of Science survey conducted for the under-secretary for transportation of the U. S. Department of Commerce in 1963, and a private survey of rail industry suppliers completed in 1965. Findings of all four surveys indicated much the same thing:



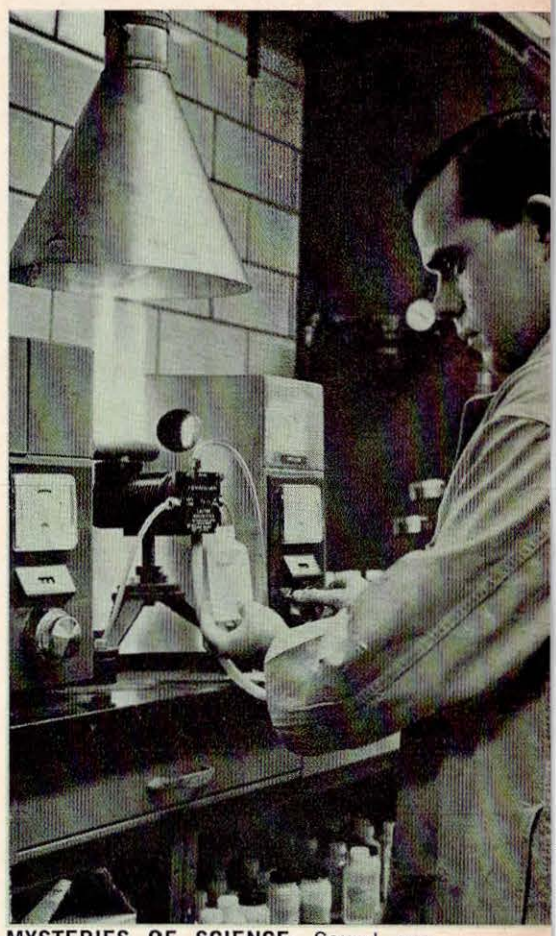
to give engineers information that can be structures that carry the autos.



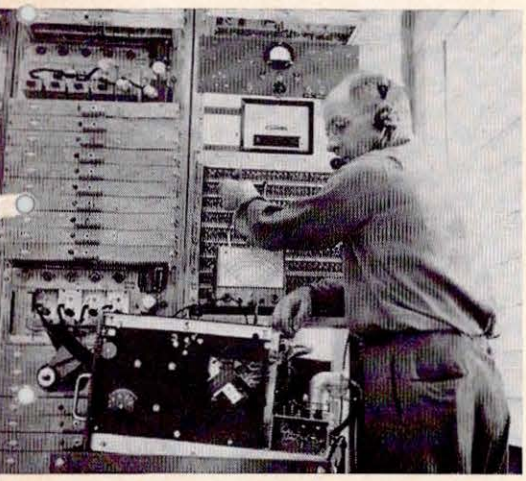
85-FOOT-GIANT auto-parts cars are dramatic additions to the car fleet.

NEW TRANSIT CARS—the product of R&D efforts in the passenger field.

PAINT SAMPLES get inspected in development of bacteria-free paint.



MYSTERIES OF SCIENCE: Sound analyzer and qualitative analyzer.



HOTBOX DETECTION equipment has helped cut incidence of hotboxes.

a high gobbledygook content in much of the discussion about railroad R&D (see page 23) that seems to be fashionable in Washington lately.

The trouble with much of the Washington discussion of rail industry R&D, says one researcher, is that it suffers from the same kind of semantical slippage that is in the old burlesque routine where a comic walks up to a straight man and asks, "How's your wife?" and the straight man replies, "Compared to what?"

• **What do surveys show?** In 1960, Railway Age found that industry expenditures for R&D came to about $7 million, including about $1 million budgeted for the Association of American Railroads' research center at the Illinois Institute of Technology in Chicago. Supply industry R&D outlays were estimated to be $35 million over-all.

In 1963, 77 railroads and 132 rail supply firms (representing 45% of total rail sales) cooperated in a survey made by the National Academy of Science for the Department of Commerce. The "Report on Science and Technology in the Railroad Industry" noted railroad R&D expenditures of $5.4 million in 1961 by the responding 77 railroads and expenditures of $15 million on R&D by the 132 supply firms queried for the same year—indicating an R&D situation not much changed since 1960.

The NAS report to the Commerce

Department noted that rail supply company R&D efforts for a three-year period averaged 1.7% of those companies' net sales—and that this compared quite favorably with industry-at-large (or, at least, that portion of industry that operates R&D effort on its own cash). The NAS report cited the fact that 15 major manufacturing groups (conducting company-financed R&D effort over a three-year period) spent 1.6% of sales.

The NAS report states flatly: "Sweeping allegations that railroads have been almost totally resistant to change and that a great part of their current difficulties may be ascribed to a stubborn refusal to look for and to apply technological improvements are not supported by fact."

● **Prophecy in NAS report.** An interesting conclusion in the NAS report put a finger upon what has since proved to be the fastest-growing aspect of railroad R&D effort: "Too little effort is devoted to system analysis," noted the NAS survey. And the industry must, said the report, "develop a body of fundamental knowledge concerning the performance of mechanisms involved in railway operations and define the parameters of service environment."

Railway Age's survey this year bears out just how accurate an insight this NAS conclusion was. Railway Age's updated R&D profile looks like this:

—R&D expenditures of 22 major railroads in 1965 came to $42,075,285.

—R&D budgets for 1966 for the same 22 railroads amount to more than $48,000,000.

By far the greatest increases in railroad R&D outlays have been expenditures for systems research and development, of one kind or another. Including the additional 57 roads covered by the NAS report would not significantly change the totals. The roads responding to the Railway Age survey are the carriers that account for the major portion of the industry's R&D expenditures. In addition, the figure is probably low. Several railroads making heavy expenditures for development of control systems reported only their budgets for hardware R&D.

● **Upswing in supplier R&D.** Increases also show up on the supplier side of the industry R&D effort. A private survey of 61 major suppliers in mid-1965 indicated that suppliers were beefing up R&D expenditures considerably. The NAS report indicated supply firms spent about 1.7% of sales on R&D in 1961. The private survey of 61 supply firms indicated that 2.73% of sales were going into R&D programs by 1964, that something like 3.1% of sales were budgeted for R&D in 1965—and that supply company chief executives anticipated R&D spending would be taking 3.6% of sales in 1966.

Railway Age surveyed 36 supply firms early this year and found that 32 of those firms alone spent $32,927,500 on R&D in 1965, much more than the 132 supply firms that reported to the NAS survey spent in 1961. Further, the same 32 companies have $29,794,500 budgeted for R&D in 1966. Unlike the totals for the railroads, where the major roads would account for the bulk of R&D expenditures, it can be supposed that inclusion of the other 97 supply firms from the NAS survey would substantially increase the R&D money suppliers are investing in their markets.

● **More R&D people at work.** An interesting aspect of the industry's current R&D effort is the increase in the corps of engineers, physical scientists, mathematicians, social scientists, economists, computer theoreticians and technicians necessary to mount effective R&D programs. The NAS report said 1,663 such people were involved in the R&D programs of the 77 reporting railroads and the 132 reporting supply companies. The 20 railroads and 35 supply companies replying to Railway Age's questionnaires on R&D listed 2,802 such specialists at work on R&D programs in 1965 and more, obviously, on the way into laboratories as budgets were increased in 1966.

Another interesting dimension to the manpower side of railroad capability is cited by the manager of a top supply company: "Rail managers are generating new demands at a furious clip. They just aren't satisfied. They are driving to achieve internal efficiency and to compete more effectively. A little-recognized factor is the fierce competition within managements about to be merged. People are extremely important—and rail managements are getting better by the day."

● **Trend toward systems R&D.** Railway Age's survey reinforces what all knowledgeable transportation experts have long known. There has always been a strong amount of R&D effort as it is understood by laymen (who tend to equate R&D only with product development and improvement). Innovations adopted on U. S. railroads since World War II are massive evidence for the vitality of this kind of rail industry R&D in time past.

Much more important for the industry's long-range prospects, however, is the strong trend toward more and more systems research, market research and rate research that shows up in the Railway Age survey. Railroads are already deep into the kind of systems

MAJOR RAILROAD EXPENDITURES AND VIEWS ON R&D

Road	Spent On R&D '65	Spent On Market, Rate R&D	R&D Budget For 1966	R&D Staff	Do You Think AAR Lab Enough For Industry?	Can AAR Lab Be Improved?	Has R&D Been Neglected In Past Years?	Is R&D Being Neglected Now?	What's The Outlook For Rail R&D?
Railroad A	2,000,000	———	2,000,000	40	No	Yes	No	No	Good
Railroad B	10,000,000	7,000,000	10,000,000	200	No	Yes	Yes	Yes	Good
Railroad C	500,000	100,000	600,000	50	No	Yes	Yes	No	Good
Railroad D	3,000,000	250,000	3,250,000	200	No	No	No	No	Good
Railroad E	170,000	25,000	205,000	9	No	Yes	Yes	Yes	Fair
Railroad F	50,000	20,400	51,500	4	No	Yes	No	No	Good
Railroad G	———	———	———	—	Yes	No	Yes	No	Good
Railroad H	75,000	50,000	75,000	3	No	Yes	Yes	Yes	Good
Railroad I	300,000	———	———	—	No	Yes	Yes	Yes	Good
Railroad J	400,000	———	500,000	40	No	Yes	No	No	Good
Railroad K	2,500,000	150,000	2,650,000	350	Yes	Yes	Yes	No	Good
Railroad L	319,000	90,000	430,000	12	No	Yes	Yes	Yes	Good
Railroad M	———	136,000	———	14	Yes	Yes	No	No	Good
Railroad N	725,000	212,000	900,000	60	Yes	Yes	No	No	Good
Railroad O	475,000	100,000	517,000	43	Yes	Yes	Yes	No	Good
Railroad P	6,061,285	400,000	6,100,000	126	No	Yes	Yes	No	Good
Railroad Q	10,000,000	2,000,000	10,000,000	350	No	Yes	Yes	Yes	Good
Railroad R	200,000	———	220,000	13	No	Yes	Yes	No	Good
Railroad S	———	———	———	—	Yes	Yes	Yes	No	Good
Railroad T	———	———	———	250	Yes	Yes	No	No	Good
Railroad U	4,200,000	770,000	4,800,000	111	No	Yes	Yes	No	Good
Railroad V	500,000	200,000	500,000	40	No	Yes	Yes	No	Good

research and analysis needed to solve industry-wide operational and commercial problems that are continental in scope. The trends reflect a dramatic shift from an operations-oriented to a market-oriented industry.

Ten years ago, supply-company R&D dominated the industry's progress. It was characterized by hardware innovation more than anything else. Now, railroad R&D programs directed at total systems and operations research, as well as dramatically augmented market research and fact-finding programs, are starting to produce wholesale changes in every corner of the nation's railroad network—and structuring the outlines for even more spectacular changes in time to come.

● **Top men spark shift.** The revolution in research that got under way during the early Sixties is firmly anchored in the policies of top men in the industry—on both the railroad and supply side of the business.

Presidents of 22 of the nation's largest railroads feel the outlook for continued growth via R&D is very bullish. Presidents of 33 of the 36 supply companies surveyed by Railway Age report a similar kind of rising expectation in R&D activity from now on out.

A majority (16 of 22) of the railroad presidents feel that present R&D levels are "adequate." A majority of supply company presidents (27 of 36) feel present R&D programs are enough to carry the current revolution in railroad technology and operations.

● **Long-range view is common.** A substantial majority of both railroad and supply company presidents feel the industry neglected R&D in years past. Some of the 24 supply company presidents who thought industry R&D was neglected in the past were quick to point out that beleaguered railroads—hindered by unfair regulation and confronted with competitors supported by government promotion policies—were seldom able to muster both the cash and the courage required to invest in R&D effort aimed at long-range future benefits. "Every innovation had to pass a quick-test of profitability before anyone would even think about it," recalls one prominent supply company president.

On the railroad side, 15 presidents of the 22 responding think the industry neglected R&D in the past. These men point to internal inertia based upon rigidities of both technique and plant—as well as the smothering effect upon the entire business of restrictive regulation. "Our own internal rigidity, the external barriers to improvement—combined to make us cautious about risking our slender and dwindling resources into anything so chancy as R&D," notes one president.

MAJOR SUPPLIERS' EXPENDITURES AND VIEWS ON R&D

Supplier	Spent On R&D '65	Budget For '66 R&D	% Sales	R&D Staff	Was R&D Neglected In Time Past?	Is R&D Neglected Now?	What's The Outlook?
Company 1	.....	.....	8%	10	Yes	No	Good
Company 2	$185,000	$360,000	2.5%	18	Yes	Yes	Good
Company 3	860,000	1,020,000	1%	50	Yes	No	Good
Company 4	1,809,000	1,992,000	3.2%	90	Yes	No	Good
Company 5	700,000	1,500,000	3.8%	40	Yes	No	Good
Company 6	100,000	150,000	3%	4	Yes	No	Good
Company 7	2,700,000	2,700,000	..	..	..	..	Good
Company 8	100,000	135,000	2%	3	Yes	No	Good
Company 9	302,000	800,000	3%	40	Yes	Yes	Good
Company 10	2,000,000	2,000,000	1%	..	No	No	Good
Company 11	50,000	50,000	4%	3	No	No	Good
Company 12	1,000,000	1,000,000†	..	..	Yes	No	Good
Company 13	315,000	300,000	1%	17	No	No	Good
Company 14	380,000	742,000	4%	20	Yes	No	Good
Company 15	75,000	122,500	1.5%	5	Yes	No	Good
Company 16	400,000	400,000	..	20	Yes	No	Good
Company 17	110,000	300,000	15%	16	..	..	Good
Company 18	20,000	25,000	..	1.5	Yes	..	Good
Company 19	150,000	150,000	..	4	Yes	No	Good
Company 20	.....	100,000	.2%	..	Yes	..	Good
Company 21	162,000	264,000	.4%	18	Yes	No	Good
Company 22	40,000	50,000	..	1	Yes	Yes	Good
Company 23	24,000	26,000	..	1	No	No	Good
Company 24	.....	.....	..	..	No	No	Good
Company 25	12,500	20,000	5%	..	No	No	Good
Company 26	409,000	750,000	1.7%	30	Yes	No	Good
Company 27	1,000,000	1,250,000	..	28	Yes	No	Good
Company 28	1,284,000	1,373,000	1%	110	No	No	Good
Company 29	870,000	1,750,000	..	290	..	No	Good
Company 30	440,000	470,000	..	14	No	No	Good
Company 31	.....	.....	..	..	Yes	Yes	Poor
Company 32	1,000,000	1,250,000	10%	..	Yes	No	Good
Company 33	700,000	1,100,000	..	..	Yes	Yes	Poor
Company 34	50,000	70,000	..	..	Yes	..	..
Company 35	50,000	75,000	..	..	No	No	Good
Company 36	6,600,000	7,500,000	7%	60	Yes	Yes	Good

The Transportation Act of 1958, which relaxed some of the external pressures against railroad competitive moves, the adoption of computer technology, and the fight to modernize work rules, combined to give industry new incentive to re-examine the entire industry's possibilities for profit.

They began to see fresh opportunity for successful competition against the barges, trucks and airlines that had displayed much growth after World War II.

● **A search for facts.** This shift in emphasis turned the railroad industry R&D toward paperwork research of magnitude and great importance.

Between the end of World War II and 1960, the industry spent more than $16 billion for important improvements in motive power, specialized equipment, mechanization of maintenance-of-way operations, computers, signaling and communications. These important improvements in technology were based upon the need for cost-reduction to keep competitors from making even further inroads on diminishing traffic. This financial pressure, noted the NAS report, "caused railroad managements to avoid new capital investment unless predicted reductions in operating costs were from 20 to 50%." But even these considerable expenditures could not do what had to be done.

● **A fresh look at 'sacred cows.'** As the industry became more adept at handling the new electronic technology

it acquired in the late Fifties (as a means of reducing the cost of paperwork), the industry plunged into systems analysis and research. For the first time since the nineteenth century, the interaction between operations and hardware ceased to be dominated entirely by technicians intent upon cost-cutting hardware. New ideas were being examined. Even such sacred ideas as 30-year cycles for devices are now being shattered. Art Hoogerhyde, Union Switch & Signal director-research and engineering, reports pressure from railroad men to do less "building for eternity." Hoogerhyde says, "It's a refreshing experience to hear them ask if we shouldn't build for 10-year cycles—because of depreciation, because of technological change and because investment (at 10 years) is too great to abandon even though benefits are substantial."

● **'Understanding' from R&D.** Fundamental to operating any system, say R&D men, is understanding of the system. Rail managements have turned R&D efforts toward the many individual "systems" basic to rail operations that are not understood. They are investing money in systems analysis and research aimed at producing knowledge about such things as yard and terminal operations, freight-system values, equipment utilization and management-control systems utilizing the considerable electronic data processing, communications and work-rule betterments that have transformed railroad operations.

This kind of systems R&D is the essence of the industry's present requirement, in the view of J. J. Wright, vice president in charge of New York Central's Cleveland Technical Center. "We must think beyond box cars. Industry R&D forces must stand at the interface of outside technology and inside opportunity, to tell industry leaders what is and will be affecting them."

● **Hardware R&D ahead.** Possibilities for future equipment R&D programs are, in the supply industry's view, enormously enhanced by research directed at the nature and shape and configuration of the systems within which railroads must operate to meet even greater changes in the systems of distribution that are evolving.

Technology is getting smaller and bigger. The life of products is shrinking and capital risk is accelerating as railroads evolve new operations philosophies.

Product development managers everywhere note that the pressure is on to make products trouble-free and perhaps not so repairable as in the past.

Meshing of railroad industry R&D with the subsequent requirements of evolving systems is gaining momentum. Here, there and everywhere in the early and mid-Sixties, a growing flood of traffic coming back to the rails from common carrier trucks, private carriage and even barges and pipelines reflects the vitality of current interaction between industry and supplier R&D.

● **Will government back trends?** And the best is yet to come. The real renaissance of R&D in the railroad industry necessarily awaits completion of the massive systems research being carried on—in the main—by railroads themselves. Neither the suppliers nor the government are, at present, making much of a contribution in this most elemental area of railroad R&D. Experts think government's sudden interest in expending some time, effort and money in the direction of promotion for railroads is all well and good—if it heralds a switch in over-all federal transportation policy. But railroads and their suppliers are obviously disinclined to wait upon government to do for them what government has done for the competition since World War II and before.

"Sure," observed one railroad R&D expert, "we know the future's requirement in terms of capital outlay and innovation. But, what kind of strings will be attached to a sudden reversal in federal promotion policies? If Washington is sincere and wants to speed the process as much as possible, they might try eliminating minimum rate regulation so that the industry's private managers can generate competition quicker and thereby generate capital for needed improvements.

"What I'm afraid of is this: It isn't going to result in that at all. Government won't antagonize such powerfully entrenched pressure groups as the truckers and waterways operators—they'll do their promotion of railroad systems on top of everything else. That will lead to a yet more expensive distribution system for the country. Or, worse, they may keep the artificial strictures on rail operations, spend their promotion money, and, when it fails, declare the railroads are an archaic transportation system. Or, failing, they may turn to the 'sexy' industries for a solution.

"If government would formulate policy recognizing the value of real competition in the transportation field, we would soon see a revitalized railroad industry. Such action would mean a fantastic saving to U. S. taxpayers—and a veritable bonanza to commerce and industry as the railroads began to produce the efficient transportation possible with their volume-cost characteristics."

People who say the railroad industry is backward in R&D, in the view of rail industry experts, are flogging the wrong horse. Industry investment in R&D is already much larger than most realize—and growing fast as new opportunity opens for the railroads.

RESEARCH AND DEVELOPMENT: FOUR QUESTIONS

Do you survey outside R&D for useful fallout?

RAILROADS	13 Yes, 5 No, 4*	9 Have gotten results, 4 Have not
SUPPLIERS	25 Yes, 5 No, 6*	16 Have gotten results, 9 Have not

Do you use outside R&D capability?

RAILROADS	16 Yes, 1 No, 5*	
SUPPLIERS	25 Yes, 5 No	

Do you pursue any basic R&D?

RAILROADS	6 Yes, 10 No, 6*	
SUPPLIERS	7 Yes, 23 No	

Do you contribute to university research programs?

RAILROADS	12 Yes, 5 No, 5*	
SUPPLIERS	16 Yes, 14 No	

*Did not reply.

WHAT THE EXPERTS SAY ABOUT R&D—p. 24

Where does the 'rail R&D is inadequate' talk come from?

A curious atmosphere envelopes many of the discussions about railroad and railroad-supplier research and development activities.

The settings for the discussions vary, but the atmosphere remains the same. The talk can be in Congressional corridors, at industry meetings, in railroad shops and, increasingly, in the press. It often ignores facts known to many of the participants: the obvious, sweeping technological changes that have come with dieselization, modernization of work rules, microwave systems, computerization, and countless other results of R&D that have revolutionized railroading since World War II.

There is a growing suspicion in the industry. Some think the apparent belief in the "inadequacy of rail industry R&D" will be a pivot for critical government policy decisions in the months ahead. Some experts feel the R&D debate may well shape future U.S. railroad systems —and also determine who will do that reshaping.

● **How did it begin?** There are those who say the discussion of inadequacy began when President Kennedy, in 1962, declared that U.S. transportation policies were "chaotic" and asked Congress to change federal transportation policy by placing more reliance on competition in the transport marketplace.

Others say it began after a series of federal hearings, reports, pronouncements and research decisions convinced many opportunity-minded experts in "outside" industry that a change in government promotion policies is on the horizon.

Yet others think the atmosphere of railroad R&D inadequacy was born when President Johnson's transportation message to Congress last year handed a marvelous handle to industry critics—and to opportunity-minded people in outside industry. LBJ said the last three decades had brought great technological change to rail competitors, but that the "progress of our rail transportation system, unfortunately, has not matched these strides."

Regardless of how the obviously erroneous atmosphere came into being, got started, it is now drawing in people from every level inside and outside the industry. Those on the negative side insist that inadequacies in industry R&D are obvious in the problems that have afflicted railroads since World War II. Those on the other side say the vast sums spent by the industry for diesels, microwave systems, CTC systems, computers, maintenance-of-way machines, specialized rolling stock and hundreds of other technological betterments reflect an extremely progressive industry — especially since these considerable accomplishments were made against competition heavily backed by government promotion policies.

● **The trouble goes way back.** The industry's doughty John Barriger, president of the Katy, put the situation more bluntly in Boston last month. "The gap existing between the present state of development of the American railroads and their essential attainable standards . . . is the result of over-regulation that dates back to 1904, which, in my opinion, has retarded railroad progress to but one-third its potential advancement over that period had regulatory policies since the turn of the century been cooperative, constructive and progressive instead of punitive, regressive and oppressive. To add insult to injury, rail management is usually blamed for the railroads' plight while the regulatory processes that actually caused it are extolled for having prevented it from becoming worse."

The people involved in the discussion are heard everywhere:

—Last February, over a national television network program, a U.S. senator conversed with a well-known news commentator and casually stated that government intervention in railroad research and development efforts was prompted by the "well-known" reluctance of the industry to do research.

—In March, in Chicago, a highly placed government official assailed rail managements and the investment community for responsibility in the federal government's entry into transportation research activities. "If an industry such as transportation, which is considered a necessary public service, does not seize upon research opportunities," he said, "chances are good the public — meaning the Congress — will come in and force research on these people."

—In hearings before a subcommittee of the House Committee on Appropriations last year, Clarence D. Martin, Jr., under secretary for transportation in the Department of Commerce, asking for $3.2 million to carry on "comprehensive transportation research," listed 27 research contracts already placed by USDC. The contracts called for research into every aspect of corridor passenger traffic, freight demand, merger studies, railroad costs and transportation coordination.

He told the Congressmen that USDC's research would be handled by college and university experts, independent researchers and consulting firms—the people who, by and large, have been involved in government's large scale research efforts since World War II for the so-called sexy R&D industries — defense, aerospace, electronics, etc. Railroad men don't evidently figure to be consulted very much.

● **A look at the record.** In Boston late last year, however, New York Central's President A. E. Perlman put the industry's R&D record right on the line.

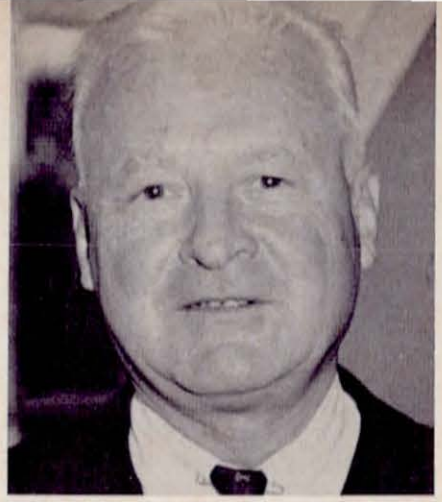
Hitting right at the bright image of competitors with whom railroads are often compared, Perlman noted: "Some individual railroads are spending more for research than all other forms of transportation put together." Railroads generally, and NYC particularly, said Perlman, are out to abolish outmoded theories and methods as a necessary preliminary to proper use of advanced technology already available.

Perlman's point, of course, is known to all insiders in this R&D discussion. Generally speaking, highway and waterway operators do no research whatever. Airline research is negligible. Government promotion cash and policies have given airlines and waterway operators a $23-billion boost since World War II. Highway investment, of crucial importance to truckers, has cost Uncle Sam, state and local governments more than $175 billion in the same period.

Railroads during that period got no handouts from the public purse to finance their technological progress. The industry, operating on its own cash, and under the additional handicap of restrictive regulation, invested more than $21 billion in betterments since World War II. Additionally, railroads and their suppliers have put up an estimated $480 million for R&D activities since World War II. That, too, was industry cash, not taxpayers' dollars.

—John D. Mitros

"A dollar of rail-industry R&D may go as far as $3 or $4 in government-supported R&D." — L. G. Blackmon, vice president and general manager, National Castings, Midland-Ross Corp.



"The industry stands well in comparison with other industries." — F. L. Bredimus, president, transportation equipment division, Symington Wayne Corp.

"One of the bright spots in our industry has been the rapidity with which we embraced technological improvements." — D. W. Brosnan, president, Southern

RAILROAD RESEARCH

What the experts say about the boom in R&D programs

Interesting aspects of the state of industry research and development come through in the comments of leaders on both the railroad and supply company sides of the matter.

Santa Fe's president and chief executive officer, E. S. Marsh, points out the basic absurdity of accusing the industry of neglecting R&D: "I think railroads have adopted practically every new development that has come on the scene. There have been limitations, of course, due to the funds that have been available for R&D in an industry that has suffered from a meager rate of return due to inequality in competitive opportunity under our national transportation policy.

"More emphasis is being placed upon R&D today than at any time in the history of the industry. Intensive competitive conditions requiring more efficient service to shippers and constantly

(Continued on page 38B)

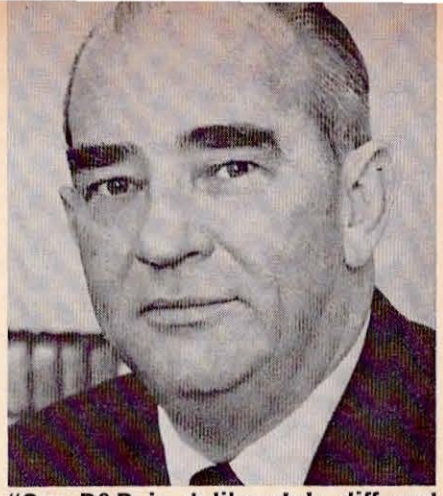
"We are examining every facet of our business." — Jervis Langdon, Jr., chairman and president, Rock Island

"Be ready for the future when it arrives." — Charles Luna, president, Brotherhood of Railroad Trainmen

"There is more R&D today than at anytime in the history of the industry."—E. S. March, president, chief executive officer, AT&SF.

"We're bullish about the industry's long-range prospects." — James J. Conway, executive vice president, Evans Products Transportation Equipment Group

"The improvements aren't readily apparent to John Q. Public." — Henry A. Correa, executive vice president, ACF



"Our R&D is deliberately diffused and encouraged in all departmental areas."—G. S. DeVine, president, Chesapeake & Ohio

"We're building a new technical center."—George L. Green, vice president and general manager, Pullman-Standard

"Stern demands will be made by railroads upon suppliers."—D. C. Howell, vice president and general manager, US&S.

"Increased emphasis on R&D is evident."—W. Ashley Gray, Jr., president, General Steel Industries

"It is important that the industry's R&D record be set straight." — W. J. Quinn, president, Milwaukee

"Railroads today are as little like railroads of 30 years ago as a DC 8 is like a DC-3." — K. L. Selby, president, National Castings, Midland-Ross Corp.

"Competition with government R&D is tough."—R. A. Williams, chairman, Stanray Corp.

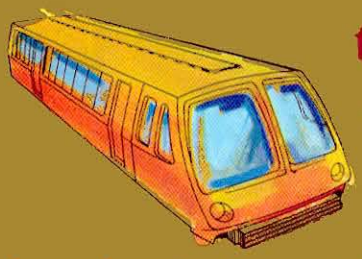
THE MASS TRANSIT FIELD—as a career opportunity—today stands on the threshold of a spectacular breakthrough (comparable in size and scope to the recent dynamic growth of the Aerospace Industry). Mass Transit is on the launching pad of tomorrow; it offers a challenge to engineers and technicians of all skills, with rewards unmatched by any other industry.

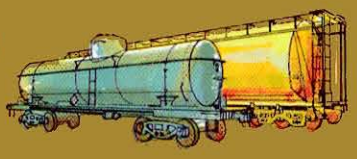
If you want to be part of one of the most far-reaching mass transit and railroad product development programs, and have experience in railroad or rapid transit engineering, contact Mr. Gene R. Schaefer, Director, WABCO Mass Transit Operations, Westinghouse Air Brake Company, Pittsburgh, Pa. 15218. Phone 412-242-3434.

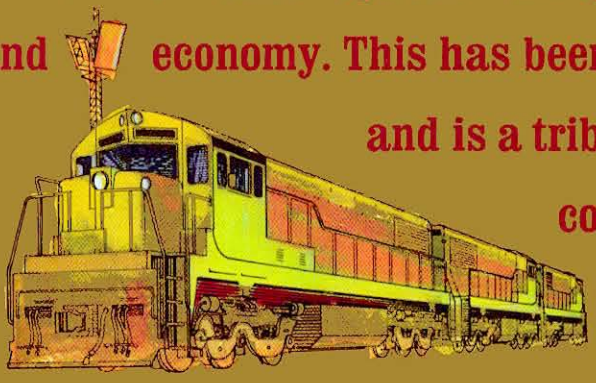
WABCO

Circle 36 on reader service card

One of the brightest spots in our burgeoning economy is the amazing progress of the railroad industry over recent years. Bigger freight cars, more powerful locomotives, microwave communications systems, mechanized track maintenance—these and other technical advances enable America's railroads to move heavier trains at faster speeds with greater safety and economy. This has been a great boon to shippers, and is a tribute to the resourcefulness, courage and determination of railroad leadership.







Have wheels kept pace with railroad progress?

EDGEWATER wheels have

Underneath it all are wheels. We like to believe that scientific methods have consistently advanced our steelmaking, forging, rolling and other techniques. Edgewater Wrought Steel Wheels today are the finest we have ever produced in our half-century of service to the railroads. Some highpoints of our recent progress are described on the next page.

Electric Furnace Steel

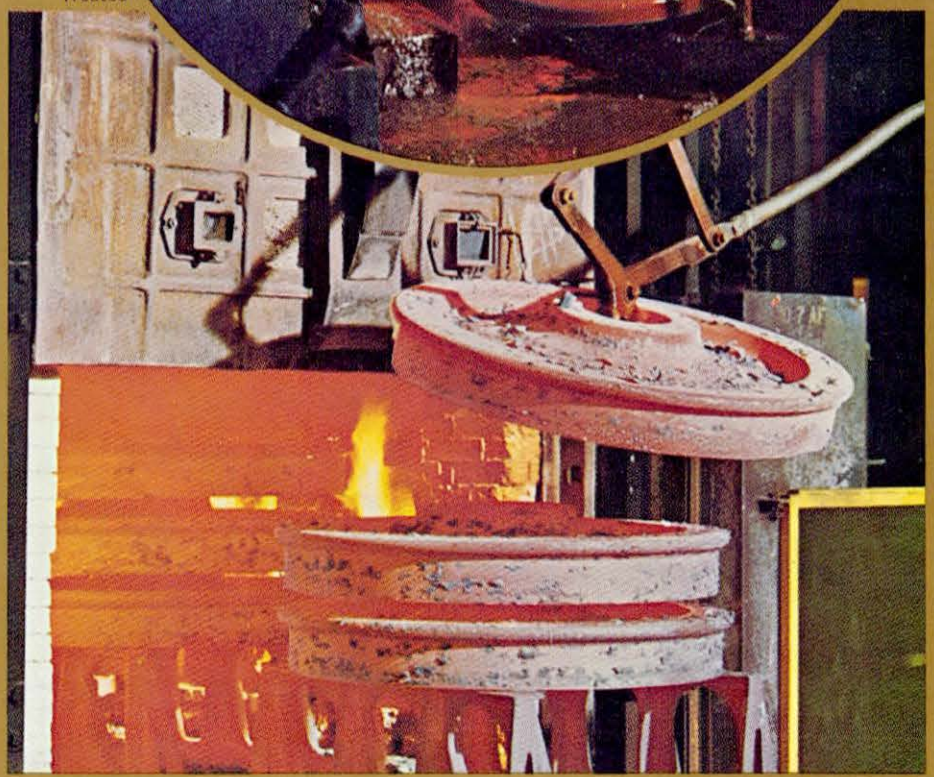
Forged and Rolled

Why Edgewater 1966 wheels are better

Our new steelmaking process produces better, cleaner steel; highly developed forging and rolling techniques improve the grain, fibre and density of the steel; advanced heat-treating equipment and methods add extra strength and toughness; modern machining facilities assure correct contour and dimensional accuracy; inspection practices employ precision equipment and methods.

All of these advanced technologies are part of Edgewater's continuing research and product development, and that is why our 1966 wheels are the finest we have ever produced.

Heat Treated



OUR 50TH YEAR OF SERVICE TO AMERICAN RAILROADS AND INDUSTRY
1916
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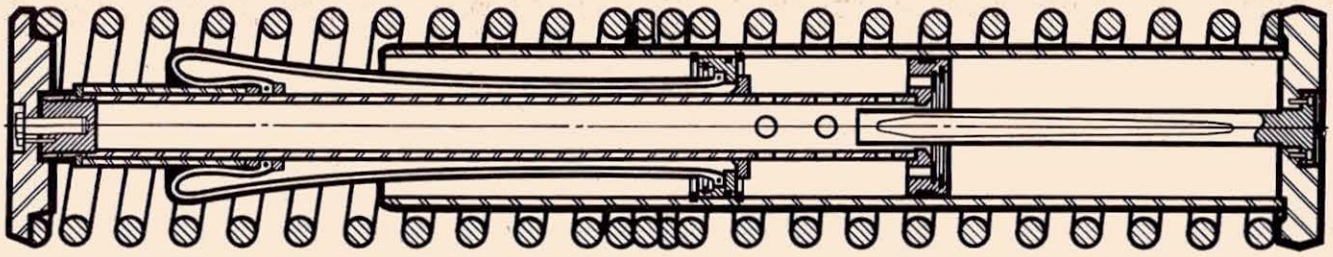
1966

Edgewater Steel Company

P. O. Box 478, Pittsburgh, Pa. 15230



Are you sure the cushioning unit you specify today will give you the same protection tomorrow? Only if it's hermetically sealed. Only the Hydroframe® unit* is. From Pullman-Standard.

A DIVISION OF PULLMAN INCORPORATED

PS

WORLD'S LARGEST RAIL CAR MAKER
200 South Michigan Avenue, Chicago, Illinois 60604

*COVERED BY U.S. PATENT 3,003,436. OTHER PATENTS PENDING.

Circle 10 on reader service card

EXPERIENCE BY THE MILLION MILES

For more than fifty years, ASF brakes have been stopping passenger trains safely at higher and higher speeds.

And to stop tomorrow's ultra-high speed trains, ASF research has created new brakes with ample capacity to meet this challenge.

ASF **American Steel Foundries**
ONE OF THE **Amsted** INDUSTRIES

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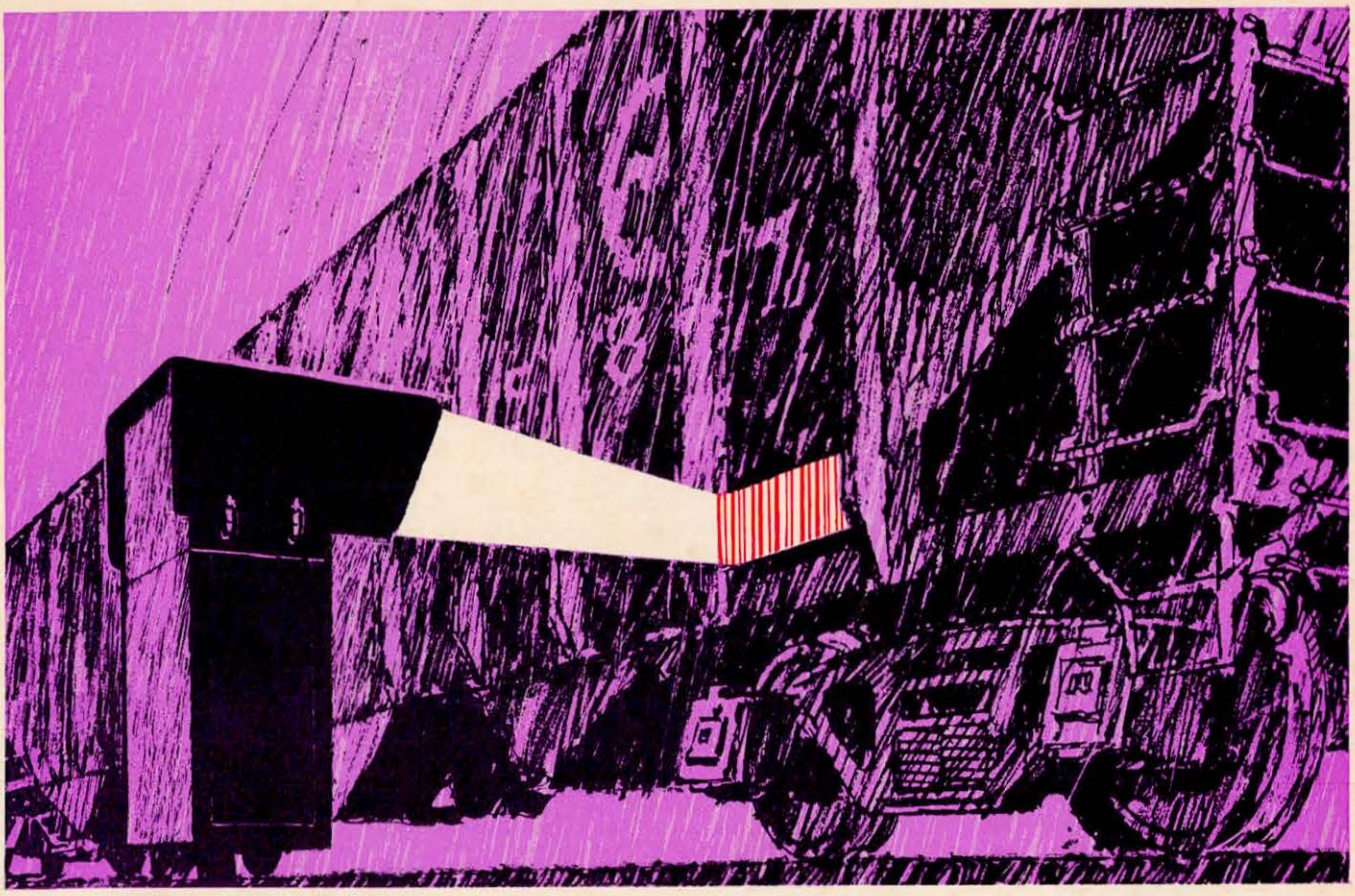
WABCO



NEITHER RAIN NOR SNOW NOR FOG NOR GLOOM OF NIGHT NOR IRON ORE DUST NOR COKE DUST NOR SLUDGE...

...can blur the vision of WABCO's Automatic Car Identification. Reading coded signs on moving trains, converting the codes into numbers and printing the numbers in less than one second is all in a day's (or night's) work for ACI. Train speeds can be as much as 80 mph.

Only WABCO's ACI offers these unique features:

- **Utilizes maximum reflectivity**—car signs are coded on Scotchlite, a retro-reflective material with a high (180 to 1; or 450 to 1) signal-to-noise ratio. Unaffected by the color of dirt or background, the signs are durable, simple to make up and easy to apply.
- **Uses infra-red light**—the trackside scanner senses only infra-red light which penetrates fog, rain and snow, much more readily than white light. Only 3% of the maximum reflectance is needed for an accurate reading!
- **Adapts to all print-out equipment**—WABCO's flexible code format matches the sign to the print-out equipment. No conversion is required between the scanner and output stages. Data can be fed directly into line printers, teletype, or digital computers.
- **Interfaces easily with computers**—ACI's design simplicity is completely compatible with future plans for electronic data processing, weigh-in-motion, route selection and dispatching, and other automatic systems.

ACI can cut railroading costs now. WABCO's ACI has been proven in field tests on the Pennsylvania and Union railroads, and in the New York and Chicago rapid transit systems. There are many economical applications for WABCO's ACI system short of universal marking of all cars. For more information on this electronic profit booster, ask your local US&S sales engineer for Bulletin 216. Or write to the Vice President of Marketing, Union Switch & Signal Division, Westinghouse Air Brake Company, Pittsburgh, Pa. 15218.

A NEW SWITCH IN AUTOMATIC CAR IDENTIFICATION FROM UNION SWITCH & SIGNAL

Circle 12 on reader service card

After three years and 400,000 miles the Seaboard overhauls their ALCO Century 420's.

They could've waited another year.

From now on, according to Joseph N. Broetzman, General Manager of the Seaboard Air Line Railroad Company, they'll run their Century 420's four years before calling them in for major overhaul.

This was Mr. Broetzman's decision after he had the Model 251 power assemblies changed in ten of his ALCO Century 420's. Each Century locomotive had served the Seaboard for three years. Each had logged more than 400,000 miles.

The Seaboard gives locomotives a rugged test. Every day they haul perishables and piggyback loads on high-speed passenger schedules. At the same time, the Seaboard gives heavy drag service like moving phosphate rock unit trains.

Many other railroads have discovered that ALCO Century locomotives have what it takes. One of the reasons why is ALCO's Model 251 diesel engine. This proven engine performs effectively under all kinds of operating conditions.

But you don't have to take our word for it. Just ask men who know their locos best...then call your ALCO man. He has information on the complete Century line: Century 855... 5500 hp; Century 643-H...4300 hp diesel-hydraulic; Century 630...3000 hp; Century 430...3000 hp; Century 628...2750 hp; Century 425...2500 hp; Century 424... 2400 hp; Century 420...2000 hp; Century 415...1500 hp; and DL-440...1000 hp.

ALCO PRODUCTS, INC.
Dept. 309-10, Schenectady, N.Y. 12305

ALCO

Joseph N. Broetzman (center), General Manager of the Seaboard, along with E. P. Bledsoe (left), Shop Superintendent, and T. H. Stoudenmire (right), Roundhouse Foreman, have just "miked" a cylinder liner after removing it from one of their ALCO Century 420's that had been in service three years. Decision: the engine could have operated another year.

Circle 13 on reader service card

LUTHER MILLER

AS THE EDITOR SEES IT...

CONFIDENTIAL MISINFORMATION—A "confidential" newsletter sharply attacking railroad management is currently raising eyebrows on Wall Street and temperatures in railroad front offices. The railroads, if you can believe this report, are outdated, inefficient, provincial, slow to modernize, glamorize and computerize, captive to paternal executives, and strangers to twentieth century concepts of research and development.

This newsletter's picture of the railroad industry is, sad to say, neither original nor narrowly-held. While railroad men are shooting the rapids of progress, they're still viewed, in many quarters, as a geriatrics society paddling upsteram in a sea of warm oatmeal.

We are going to see to it that the editor of this newsletter (as well as 200 opinion leaders in Washington and elsewhere) gets a copy of the current issue of Railway Age, which we believe tells the story of railway progress more accurately, if less breathlessly.

Perhaps it would help if readers of this issue also passed along their copies—to influential people who are outside the industry but are nonetheless important to its wellbeing. Too many of us, in times like these, tend to sit back with the prayerful hope that somehow, somewhere, the truth will out.

But all too often, the truth will out only if given a good healthy push.

MORE CONCRETE EVIDENCE—Franklin B. Bartholow, of the Dallas, (Tex.) investment firm of Speer & Bartholow, Inc., chided us the other day for not reporting—in an article on concrete crossties—that the Norfolk Southern could claim this country's longest application of such ties (32½ miles) on a potash line in North Carolina.

Now comes W. T. Murphy, Jr., chairman of the Arkansas Cement Co., Texarkana, with a friendly offer (contained in a letter to Mr. Bartholow) "to referee this hassle."

The Norfolk Southern record, asserts Mr. Murphy, is not destined for a long life: The Frisco, in its annual report to shareholders, has announced it will use concrete ties on a 32.7-mile mining line now being built between the Missouri towns of Keysville and Buick. Mr. Murphy, who clearly wants to cement good relations all around, concludes with the line, "Trusting that more and better cross ties will be used in the future."

Records are made to be broken. Who's next?

LBJ AND PASSENGER TRAINS—Harold Bregman, manager of Harvey Travel, Inc., of Houston, Texas, describes himself as "a man with a love for railroads." And he is disturbed and indignant over what he considers to be "the mistreated passenger train."

"Travel agents," he writes, "are willing to do their part to promote President Johnson's 'See America' program, but the railroads must do their part in providing the public with service and schedules keyed to our modern way of life. If one would look at recent petitions for the discontinuance of passenger trains in Texas, it would appear as though its railroads disagreed with Mr. Johnson's all-out effort to promote tourism in the United States."

We applaud Mr. Bregman's devotion to passenger trains, and we'll whistle a merry tune with anyone, anytime, especially the President, who wants to protect, preserve and promote them. As a beginning, we suggest that the President take a hard look at the Post Office Department's accelerating program of switching mail from trains to trucks—with no discernible improvement in service: often, in fact, with quite the opposite effect (a charge which we are going to document in an early issue of Railway Age).

On a passenger train, more often than not, it's what's up front that counts. And what's up front, in the mail cars, can mean the difference between continued operation and abandonment.

TOFC: PRR ships books, Reading has new service

As piggyback carloadings continue to increase week after week, so, too, does the variety of TOFC services being offered by the railroads.

Last week, the Pennsylvania announced the first piggyback shipment of books to move under a pool arrangement from east to west at reduced rates. And the Reading introduced a fast new TOFC service from Port Reading, N.J. to Chicago and St. Louis.

The PRR's book shipment moved in two piggyback trailers on one flat car. It originated at the Kearney, N.J. Truc-Train Terminal, and was bound for Reno, Nev., and Brisbane, Calif. The consolidated shipment carried books from the publishing firms of Holt, Rinehart and Winston, Inc., The Baker & Taylor Co., and The Golden Press. The rate—$2.08 per 100 pounds, minimum 80,000 pounds—became effective April 4.

Robert C. McArthur, Holt's traffic manager, said the move represented the first time in the publishing field that more than one shipper of books consolidated trailerloads of freight to take advantage of reduced rates. He said moves of this type would afford a substantial savings to book firms.

● **Reading's new service.** Reading President Charles E. Bertrand said his road's Plan III TOFC will assure Chicago and St. Louis shippers and receivers prompt deliveries on a new route to and from the important New York harbor gateway.

The new service will handle trailers between the Port Reading Terminal serving the New York metropolitan area and points in the U.S. east of the Mississippi River and north of the Ohio River. Bertrand said the road soon expects to have in effect rates which will extend the service throughout the rest of the nation, except New England.

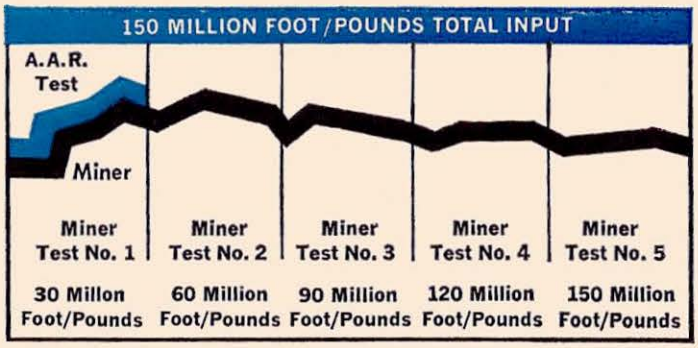
"Three new depressed service tracks have been installed at our Port Reading Terminal to properly handle the initial business. And for expected growth, plans call for a total of five depressed service tracks as well as two crane tracks. Eventually, we hope to provide both Plan II and Plan V TOFC service from this location," he said. ■

A. A. R. M-901 E -59 Calls for Highest Efficiencies In Car Protection . . .

MINER'S RF-361 Provides It!

Miner's RF-361 Draft Gear is UNCONDITIONALLY APPROVED for 24⅝" pockets. It meets the very latest A.A.R. Specifications M-901 E-59, which call for increased capacity endurance and sturdiness. Built-in reliability is assured due to Miner improved metallurgy. For the most effective protection to your lading and equipment, insist on Miner's RF-361.

Pretesting of Miner's RF-361 Gear in accordance with the very latest A.A.R. Specifications M-901 E-59, showed it would withstand five (not one) full endurance and sturdiness tests.



W. H. MINER, INC., CHICAGO

International Operations: Washington, D.C.

Circle 4 on reader service card

This console controls over 200 circuits, interconnects with 12 other consoles and contacts all yard operating personnel.

What is your yard communication problem?

E/C/E Yard Master's 1200-U Console
Panels on left, access to all circuits on east-end yard master's console; on right, to those at car repair facility; center, his immediate area of control, with numerous selector, magneto, dial and party lines, group paging, and talk-back speaker circuits, to ten other master consoles in yard, radio channels, and switch heater control.

Whatever your yard communication problem, we can handle it. We're railroad communication specialists. Having developed and supplied over 300 systems in the last ten years, we have the background required to create the kind of customized yard communications that steps-up your operating efficiency.

How? As a rule of thumb we seek the simplified means to communication control, with no black boxes to bewilder you; using as basic building blocks our standard equipment: speakers, amplifiers, power supplies, console and applique panels.

Working with your engineers, we create a master console that provides for the interchange of information with yard master, scale clerks, hump conductors, retarder operators, inspection pits, icing areas, PAX circuits and other points.

We know that no matter how challenging the communication concept you have in mind, we can help you actualize it. We're specialists . . . in your interest.

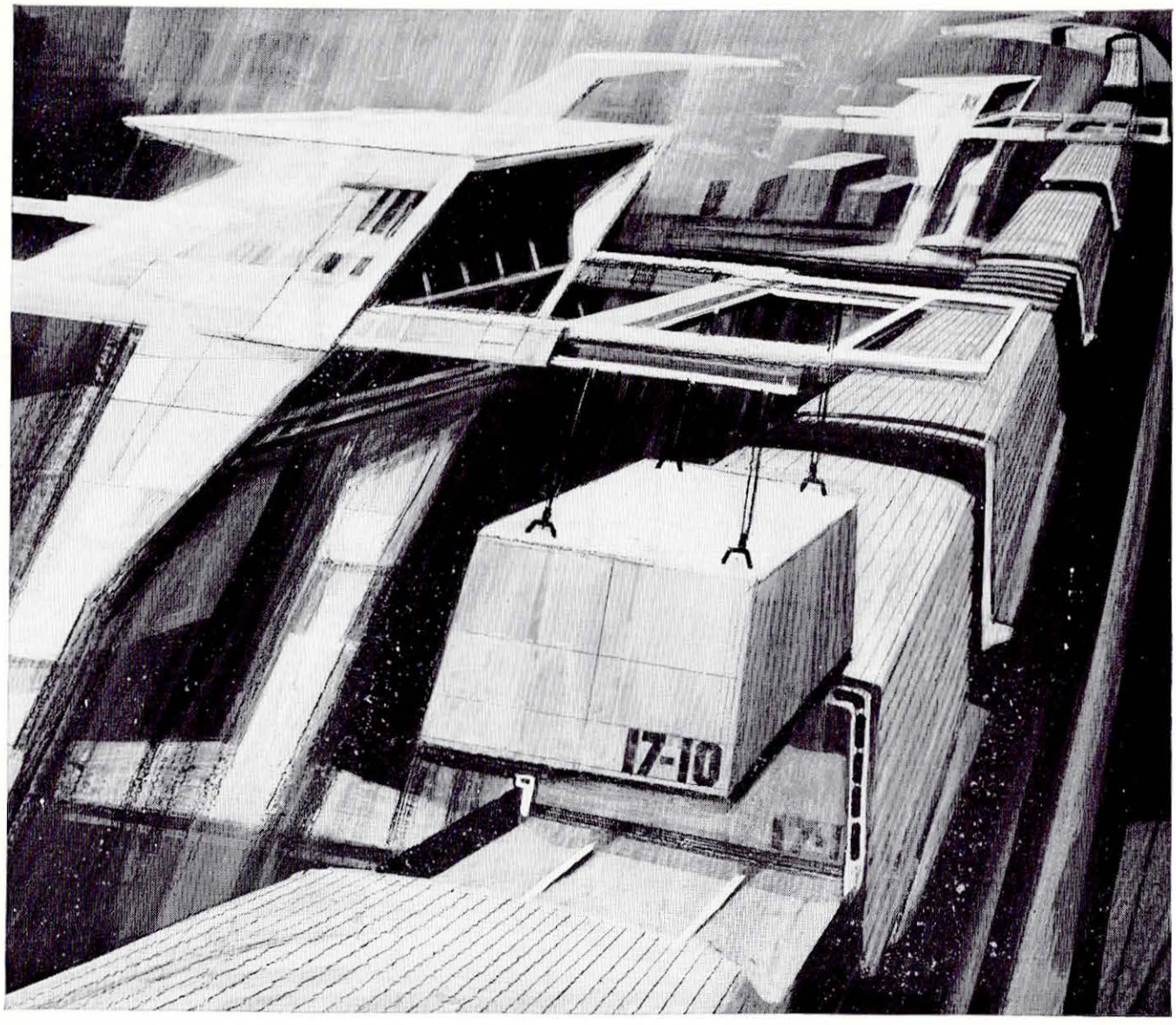
Interested? Please contact us.

3044

ELECTRONIC COMMUNICATION EQUIPMENT
DIVISION OF WESTERN INDUSTRIES, INC.
1249 West Loyola Avenue, Chicago, Illinois 60626

Circle 15 on reader service card

Dare us.



See what we can do with aluminum. The articulated freight train's a practical arrangement, with cargo containers that can be transferred to truck, plane or boat as required. It's one of the exciting new railroad ideas. Just the kind we like to get involved with.

We've already done some pretty unexpected things. Like designing and making the center sill for the new, all-aluminum rapid transit cars being built for the Port of New York Authority's Trans-Hudson "PATH" system. The sill weighs less than 2000 pounds—about half the weight of a similar section made of steel.

Working on new ideas is our strong suit. We have the design people. And some pretty unusual equipment (like a 14,000-ton extrusion press) to produce what they come up with. We'll put everything to work on your project.

If you'll challenge us.

Metal Products Department, The Dow Chemical Company, Midland, Michigan 48640.

DOW

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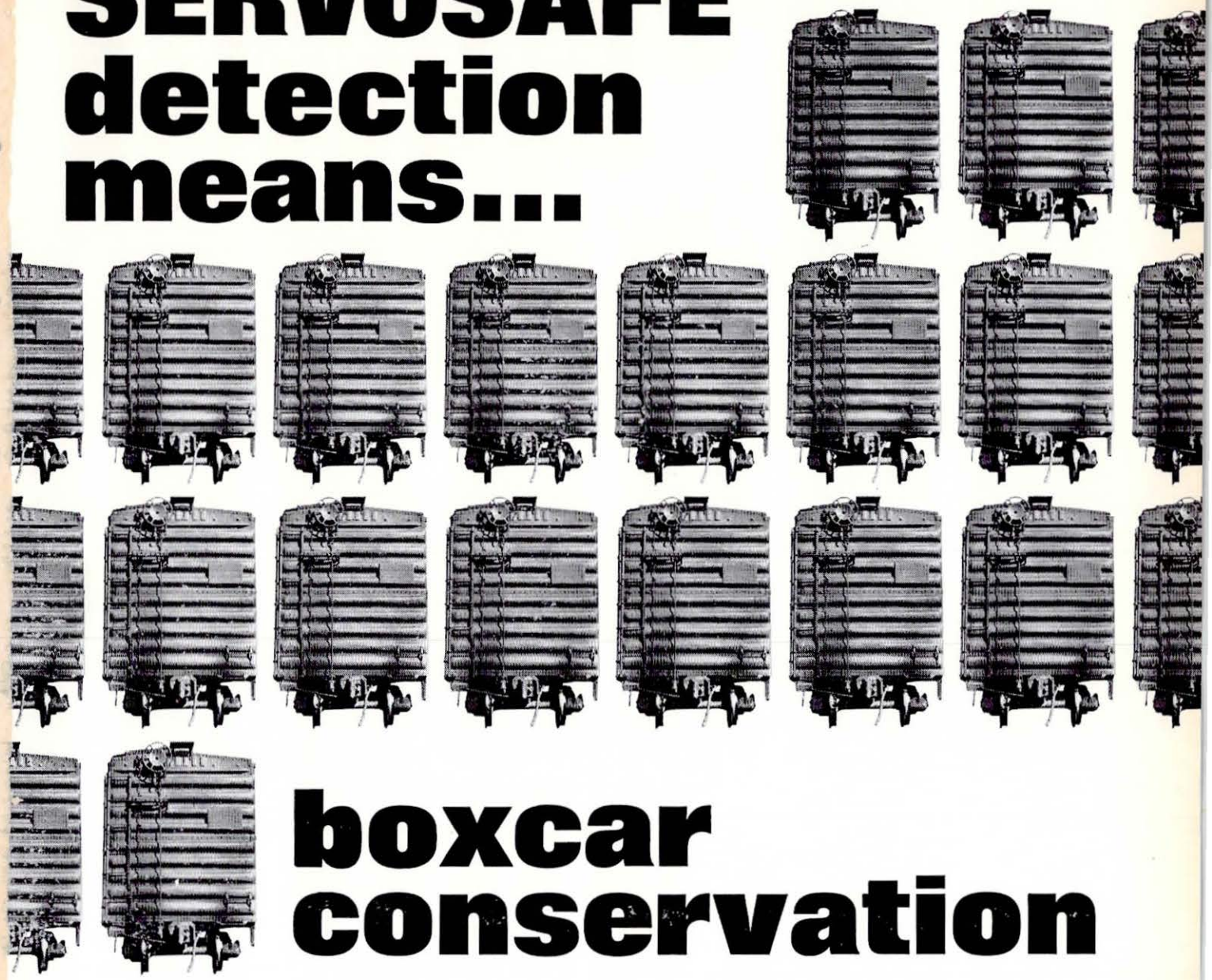
SERVOSAFE detection means...



boxcar conservation

Servosafe® Hot Box Detective Systems spot overheated journals before they become serious problems.

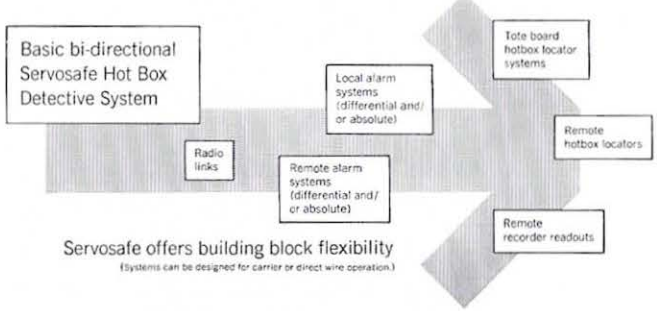
Early detection prevents possible derailments and extensive car damage or total loss. Minor journal damage can be repaired quickly and cars can be placed back into revenue service with a minimum of delay!

This highly reliable detection system was originated by Servo, and has been proved through use on most major railroads. Since that time, Servosafe has become the industry standard.

The basic trackside units and many accessories are diagrammed below. Latest innovations in the ever-expanding system are an overhead trackside indicator and the Servomaster® Data Storage and Command System.

What more could you want in a complete system? Servo can produce it. Our research and development program will continue to provide you with the most advanced equipment to meet present and future needs.

For innovations in hotbox detection, look to Servo. For additional information, write or phone. Servo Corporation of America, Railroad Products Division, Department RA-4, 111 New South Road, Hicksville, L. I., New York, 11802. Phone: (516) 938-9700.


Basic bi-directional Servosafe Hot Box Detective System
Tote board hotbox locator systems
Local alarm systems (differential and/or absolute)
Remote hotbox locators
Radio links
Remote alarm systems (differential and/or absolute)
Remote recorder readouts

Servosafe offers building block flexibility
(Systems can be designed for carrier or direct wire operation.)

SCA servo
Corporation of America

Servosafe Hot Box Detective Systems are protected under one or more of the following U.S. patent numbers: 2,880,309; 2,947,857; and 2,963,575. Other U.S. and foreign patents pending.

Circle 37 on reader service card

Circle 16 on reader service card ►

Tell us what liquid you want to ship. We'll supply the tank cars.

Got a hard-to-hold product? We'll hold it. Must your product be protected against contamination? We'll protect it. Worried about flavor preservation? We have tank car designers who are gourmets, too. Whatever your product, you can lease GATX tank cars to exactly meet your requirements. And you know how much better it is to lease, than getting yourself into the problems of the tank car owning and maintenance business.
(What did you say that liquid was?)

TANK CAR DIVISION
GENERAL AMERICAN TRANSPORTATION CORPORATION
135 SOUTH LASALLE STREET, CHICAGO, ILLINOIS 60690

GATX

HAVE YOU CHECKED OUR CREDENTIALS?

The numbers listed above symbolize only a small portion of the patents WABCO holds in mass transit—a product spread that ranges from tunneling equipment to highly sophisticated computerized control systems. • A major engineering expansion program is under way at WABCO, calling for all the technical skills of massportation. To learn what's going on here, write for Bulletin #6026. For details on challenging career opportunities, contact Mr. Gene R. Schaefer, Director, *Mass Transit Operations, Westinghouse Air Brake Co., Pittsburgh, Pa. 15218.* Phone 412-242-3434.

WABCO

MASS TRANSIT CENTER

Circle 35 on reader service card

Public relations aspects of R&D are stressed

(Continued from page 24)
rising costs, necessitating new measures to hold down costs of operations, dictate a continuing and increased emphasis on all R&D functions."

● **Public relations problem.** Henry A. Correa, executive vice president of ACF, assesses the R&D problem of the industry as one of public misinformation. "When growth industries stand up to be counted for their technological advances, the railroads and their suppliers are often overlooked because their improvements aren't readily apparent to John Q. Public. The end products look much the same as their predecessors even through there is no comparison in performance. Some examples are 100- versus 70-ton trucks, roller versus solid bearings, and welded versus section rail.

"Other advances include faster loading and unloading hardware, the greater capacities of equipment and equipment's ability to carry wider varieties of ladings in custom style. All these betterments are immediately recognized by experts—but how can the uninitiate spot them? He can't. It is up to us in the business to serve notice that the railroad industry is prepared for the challenges of the 21st century. The record bears this out."

Jervis Langdon, Jr., chairman and president of the Rock Island, assesses the R&D situation this way: "We are engaged in research of various kinds in the broadest sense of the term. Currently, we are examining every facet of our business, looking toward the adoption of new tools and techniques to improve operations and increase traffic.

"Research is, of course, a continuing and cooperative process, particularly in an industry like ours. While it might be felt that American railroads do not conduct as much research as they should, with the advent of mass-produced cars and locomotives much of the impetus for research has shifted from the railroads, which formerly designed their own equipment, to the builders. Further, although it is difficult to establish the optimum level of research which could be supported in total, the combined efforts of railroads, their suppliers and various organizations produce a surprisingly high output of innovation and invention."

K. L. Selby, president of the National Castings Group of Midland-Ross Corp., like ACF's Correa, thinks the industry has a public relations problem in the R&D image it projects. "It's hard to demonstrate the real vigor of rail industry R&D. It has what I call an iceberg factor—for each visible betterment, eight or nine betterments lie below the surface. Nearly everyone is aware of dramatic changes, like steam power to diesels. Some even know about the giant hoppers and tank cars, the microwave and computers.

"Really knowledgeable observers know today's railroads are as little like railroads of 30 years ago as a DC-8 is like a DC-3."

● **Rail R&D money is productive.** Efficient use of R&D funds in the industry is a plus cited by National Casting's Vice President and General Manager L. G. Blackmon: "These are private funds which have proved highly productive in end results. I estimate that a dollar spent in rail industry R&D may go as far as $3 or $4 spent for R&D on aircraft or electronic R&D supported by government funds." Blackmon reasons his ratio this way: "Industry R&D money has a strong demand placed upon it for practical results in restricted time. Private industry, dependent upon profitable operations, has not got the freedom to fail."

R&D emphasis is obvious

"Increased emphasis on R&D is evident throughout the transportation industry," says W. Ashley Gray, Jr., president of General Steel Industries, Inc., and vice chairman of the Railway Progress Institute. "There are many examples of the industry's efforts—from specialized freight cars to new types of trucks and suspension systems, and attractive modern rapid transit cars, consumer-designed with the passenger in mind. GSI's $1-million Research Center, recently opened at Granite City, Ill., is indicative of our confidence in the continuing development of the railroads through technological evolution.

"The historic work now under way at the BART test track and the progressive design and engineering being undertaken in connection with the Northeast Corridor high-speed train demonstration mark a new era of rail technology that will be felt throughout the industry. Modernization of the Port Authority Trans-Hudson system with its new all-aluminum cars, the forthcoming stainless steel-composite vehicles we are building for the New York City Transit Authority and, of course, the dramatically modern BART car are proof that our industry—supplier and operator alike—is moving swiftly ahead."

J. J. Wright, vice president and director of New York Central's Cleveland Technical Center, also makes this point: "Control of railroad research has always been tighter than in other industries. It's tough for the researchers—but good for over-all programs."

● **Long-range outlook bright.** James J. Conway, executive vice president, Evans Products Transportation Equipment Group, attributes his firm's prominent position in its field to continued emphasis on R&D. "To show how bullish we are about the industry's long-range prospects, we're building a new research facility right alongside our already considerable research facilities at Plymouth, Mich. Our new building will be alongside our test track and will be mainly used for designing, planning and constructing prototype freight cars and devices for test and evaluation.

"We're also backing up the building with an R&D budget of a million dollars plus a half-million for engineering back-up."

The complex nature of R&D efforts on railroads is aptly outlined by C&O President G. S. DeVine. "Although C&O-B&O has a department labeled research services, R&D is not centralized. It is deliberately diffused and encouraged in all departmental areas. There are research groups such as cost and revenue research, market research and so forth. The activities of these groups may not be comprehended within the scope of research in other industries and even by other railroads."

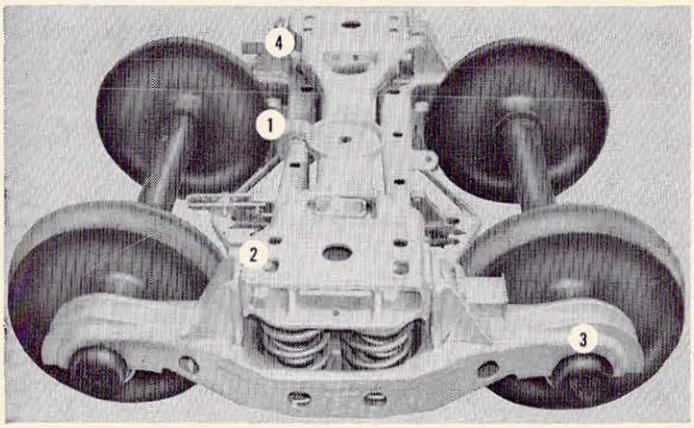
● **Another research center.** George L. Green, vice president and general manager of Pullman-Standard, points out the importance of R&D this way: "Pullman-Standard was the first major supplier to set up a full-time R&D lab after World War II. We feel that technical know-how resulting from our consistent R&D programs is the only assurance we have of Pullman-Standard's future. We continuously work on car designs and innovations to help solve total distribution and material-handling problems.

"The ability of P-S to sharply increase production in 1964 and 1965 stemmed directly from the company's policy of maintaining and improving facilities and also intensifying R&D efforts during slack carbuilding times. In fact, our faith in the railroads as a growth industry prompted us to maintain and modernize plant capacity when others closed shops. Part of our $4.5-million improvement program includes construction of a new technical center at Hammond, Ind., which we

who said truck design was obsolete?

we did...
and we did something about it!

• First, we studied operating records, determined what was causing trouble in the old trucks, what was adding to your costs. • Then we designed a truck that was simple, easily installed, easier to maintain, yet eliminated the wear points and provided protection for any lading. • On road tests, the Rockwell Truck ran ten times as far as an ordinary truck (in fact, it's still running). Repair and rebuilding costs were at absolute zero. • The new Rockwell Truck is now available for service on your high-mileage, high-speed cars. A trial carset is available for any testing you want to give it. • Just write to Rockwell Mfg. Co., LFM-Atchison Div., Transportation Casting Sales.



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1. A spherical ball bearing in each transom equalizes the ride regardless of track condition • Longer spring travel, for both vertical and lateral cushioning, softens the ride • 2. Added lateral in the bolster improves ride quality • Fewer wearing points reduce maintenance costs • 3. Journal bearings are uniformly loaded, have lateral cushioning. • 4. Non-metallic snubbers dampen lateral and vertical displacement • Machined wear plates have close tolerances • Higher, wider spring location reduces sway and roll • Tram is accurately maintained, reducing flange wear.

RPI MEMBER

ROCKWELL **Rockwell**
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'The industry is now in a revolution'

plan to open in a few months. We, who already have the largest R&D department in the carbuilding field, will be able to greatly expand our R&D work."

● **R&D story has to be told.** Milwaukee President W. J. Quinn notes that it is of great importance that the industry's R&D record be set straight. "The content of such effort is of fundamental significance to all of us. In addition to what the railroads are doing, the R&D carried on by the suppliers of basic materials is supported in whole or in part by railroads through purchases. This is an aspect of the subject that has never been completely explored."

D. C. Howell, vice president and general manager of Union Switch & Signal, describes the rising requirement for innovation already coming from carriers as railroads push systems research efforts. "The R&D being conducted by the railroads themselves in the fields of total systems and operations research is already demanding support from suppliers in dozens of peripheral areas.

● **Stern R&D demands ahead.** "The pressure of mergers not only intensifies the need for the railroads to develop more efficient operating methods, but also puts the pressure on the suppliers to keep up with the railroads. Competition between staffs of merged roads actually results in more efficient operations and will make for some stern demands upon suppliers to come up with more efficient, more economical hardware."

R. L. Duchossois, president of Thrall Car Manufacturing Co., does not feel the rail industry and its suppliers have neglected R&D in time past. "Because of poor times, we may have been limited in funds—but that did not stop our thinking, planning and engineering.

"The industry is now in a revolution. Entirely new concepts are being used. R&D is a key part of all thinking in the railway supply industry. There will be more and more money spent in this area. It is my feeling the industry will not set aside a given amount for this effort—but will spend whatever amount is necessary."

D. W. Brosnan, president of the Southern, citing the fact that the rail industry spends far more money for R&D than any other segment of the transportation industry, says, "It is a regrettable fact that our industry has a poor public image in this area. Nothing could be further from the truth.

● **R&D yes: Benefits no.** "Actually, one of the bright spots in our industry has been the rapidity with which we have embraced technological improvements," adds the Southern president. "Our principal difficulty has been in extending the benefits derived from these technological improvements to our customers in the form of reduced pricing. Southern's effort in the grain rate case is an outstanding example of our inability to pass on to our customers savings generated through technological improvements by reason of restrictive regulation from governmental agencies."

Competing with government

A supplier with experience of somewhat the same sort is R. A. Williams, chairman of the board of the Stanray Corp., who describes how Stanray fared competing with government R&D funds: "In 1959, working with several major airlines, we developed the Jetway passenger loading bridge for aircraft terminals. We spent about a half-million dollars during the first years of the program and substantial expenditures continue to be made to improve the device and meet the needs of new aircraft. It has been successful—more than 300 units have been installed in major U. S. airports.

"When the government projected the building of Dulles International Airport near Washington, widely billed as the most advanced such facility, government sponsored another concept for handling passengers—the mobile lounge. The government agency responsible for the design and building of Dulles awarded a development contract for the prototype mobile lounge, reportedly costing taxpayers $750,000, and then awarded contracts for 20 such units at a reported price of $232,000 each. It is hardly necessary to debate the relative value of each device. The mobile lounges at Dulles are the only such devices in use—whereas airlines have all elected our device for passenger loading and unloading."

Williams goes on to describe how Stanray was hurt in yet another fashion when it attempted to market its device in Europe. "Foreign airline operators frequently said the mobile lounge must be better because it was the choice for what was touted as the world's most modern airport!"

● **Unions interested, too.** R&D activity is not confined to railroad and supply company leaders. Union leaders are also beginning to reflect increased awareness of the connection between viable technology and the future security of their memberships.

Charles Luna, president of the Brotherhood of Railroad Trainmen, for example, has kept close tabs on technological and systems research unfolding in the industry.

"We are convinced that the industry has entered a dynamic growth state and that change will be the order of things from now on out," says Luna. "We have sponsored seminars for leading academicians, scientists and government people to probe into the nature and scope of that future. We are also investing money in research to determine the capabilities of our members and to structure programs in our union so that the union and its members will be ready for the future."

F. L. Bredimus, president of the transportation equipment division, Symington Wayne Corp., says, "The past 30 years provide abundant evidence of strong, continuing pursuit of excellence by the railroad industry and its suppliers.

"Many new and sophisticated equipment and operating concepts can be traced to railroad suppliers. The record of the industry stands well in comparison with other industries similar in scope and nature. Regrettably, the industry's preoccupation with getting the job done often leads to neglect in publicizing its research and development activities."

● **Economic roots.** One industry observer, irritated with what he feels is the uninformed sniping that goes on at industry R&D performance, sort of sums up the frustration felt by many industry leaders: "The name of this game is still economics. If private investors won't put up more cash for rail industry R&D, it is not because they're stupid or because they're not greedy enough to gamble for the returns that restructured railroads are bound to generate handling the traffic practically all the eggheads say they'll be handling in a decade or two.

"Private investment in the last three decades has been understandably reluctant. Investors have been mindful that railroads play their competitive poker with three-card hands—while their trucker, barge and airline competitors hold five-card hands. The two extra cards held by rail competition are government promotion policies and the billions they get in support facilities. Even the game up—give 3-card hands to the competition or 5-card hands to the railroads—and you'll see investors lined up with money in both hands to support rail R&D moves." ■

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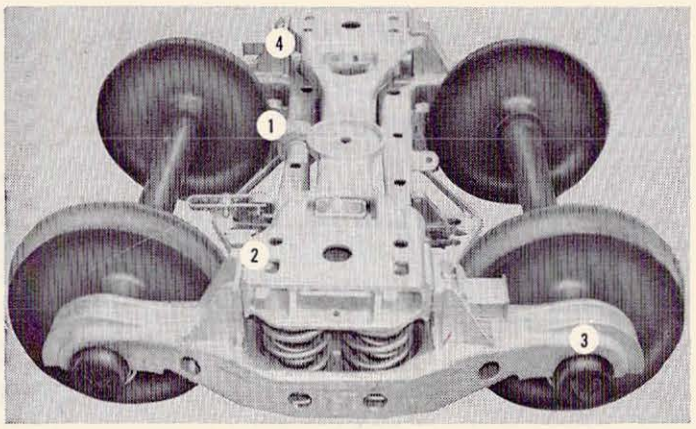

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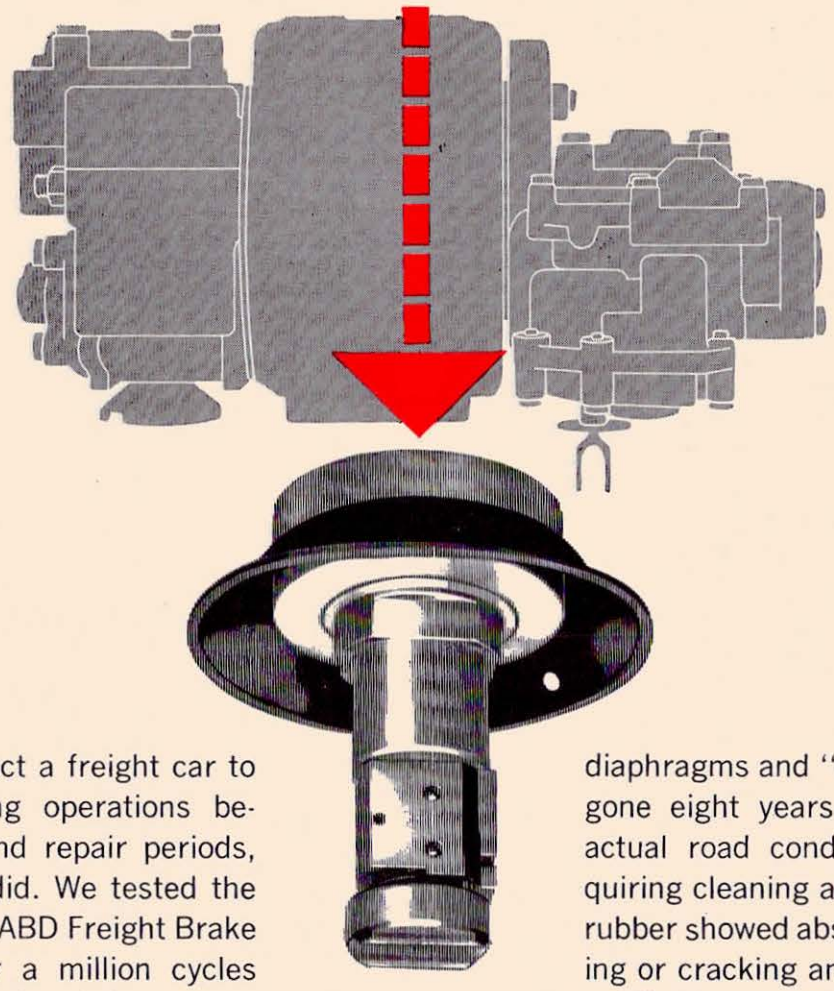
1,000,000
cycles with no breakdown



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PEOPLE IN THE NEWS

BALTIMORE & OHIO.—**Frank J. Seiz,** sales representative, New York, appointed district sales manager there. **William Carder,** district sales representative, Omaha, Neb., appointed division sales manager, Charleston, W. Va., and is succeeded by **Harry S. Hinds,** sales representative, Memphis, Tenn.

BURLINGTON.—**E. F. Molbeck,** district storekeeper, Lincoln, Neb., transferred to Chicago, to succeed **R. E. Clayton,** advanced (RA, March 21, p. 43). **N. H. Sands** replaces Mr. Molbeck.

ERIE LACKAWANNA.—**J. E. Keenan** and **M. F. Coffman** named deputy comptrollers, Cleveland. Mr. Keenan was formerly auditor of revenues and Mr. Coffman was director of research. **J. C. Castle,** assistant comptroller—disbursements, appointed assistant comptroller—revenues. **E. T. Draney,** assistant auditor of disbursements, promoted to auditor of disbursements. **G. G. Horvath,** chief accountant, named assistant to comptroller.

Warren G. Barber, assistant director of market research, Cleveland, appointed director of research.

Raymond J. O'Grady, sales representative, Birmingham, Ala., appointed coal freight agent, New York. **William A. Branning,** assistant district sales manager, St. Louis retires April 30.

John C. Ashton, Jr.
REA

Roy E. Kean
Seaboard

ILLINOIS CENTRAL.—**William J. O'Brien,** general commerce attorney, and **Robert S. Kirby,** general attorney, named assistant general solicitors.

KANSAS CITY SOUTHERN.—**B. M. Deaver** named superintendent of safety and transportation rules examiner, Shreveport, La.

PENNSYLVANIA.—**Ernest L. Wogen,** manager of freight rates, Philadelphia, appointed to the newly established position of traffic manager—grain and grain products.

Carl G. Sempier appointed manager, business systems and information processing. Mr. Sempier was formerly marketing manager of transportation, IBM Corp., Philadelphia.

READING.—**Joseph A. Creighton, Jr.,** district sales manager—coal traffic, Philadelphia, appointed New York regional sales manager—TOFC service.

REA EXPRESS.—**John C. Ashton, Jr.** has been appointed general counsel, New York, succeeding **William J. Taylor,** who also has been executive vice president and is president-elect of REA (RA, Feb. 28, p. 74). Mr. Ashton was formerly general attorney of the **Frisco.**

John H. Engel appointed assistant general counsel and director in charge of legal activities, Western and Mississippi Valley Regions, Kansas City, Mo. Mr. Engle was formerly an attorney in REA's corporate law department, New York.

SEABOARD.—**Roy E. Kean,** assistant superintendent, South Florida division, Tampa, Fla., promoted to superintendent there, succeeding **L. Carlisle Bates,** retired April 1, after 45 years' service. **Charles A. Chinnis,** assistant superintendent, Raleigh, N. C., transferred to Tampa. **W. J. Cooke,** trainmaster, Tampa, transferred to Hamlet, N. C., succeeding **Daniel W. Meacham,** transferred to Raleigh. Mr. Meacham succeeds **A. Crane Jones, Jr.,** promoted to assistant superintendent, Raleigh, replacing Mr. Chinnis.

SOUTHERN PACIFIC.—**F. W. Gehrer** named assistant master mechanic, Houston.

WESTERN PACIFIC.—**Sheldon Glatt,** district sales manager, Seattle transferred to Oakland, Calif., replacing **Carl W. Mangum,** who retired March 31. Mr. Glatt's successor is **Robert W. Rouse,** sales representative, Sacramento, Calif.

WYANDOTTE TERMINAL.—**James A. Lucier** elected vice president, Wyandotte, Mich. Mr. Lucier was formerly operations manager, Wyandotte Transportation Co., which op-

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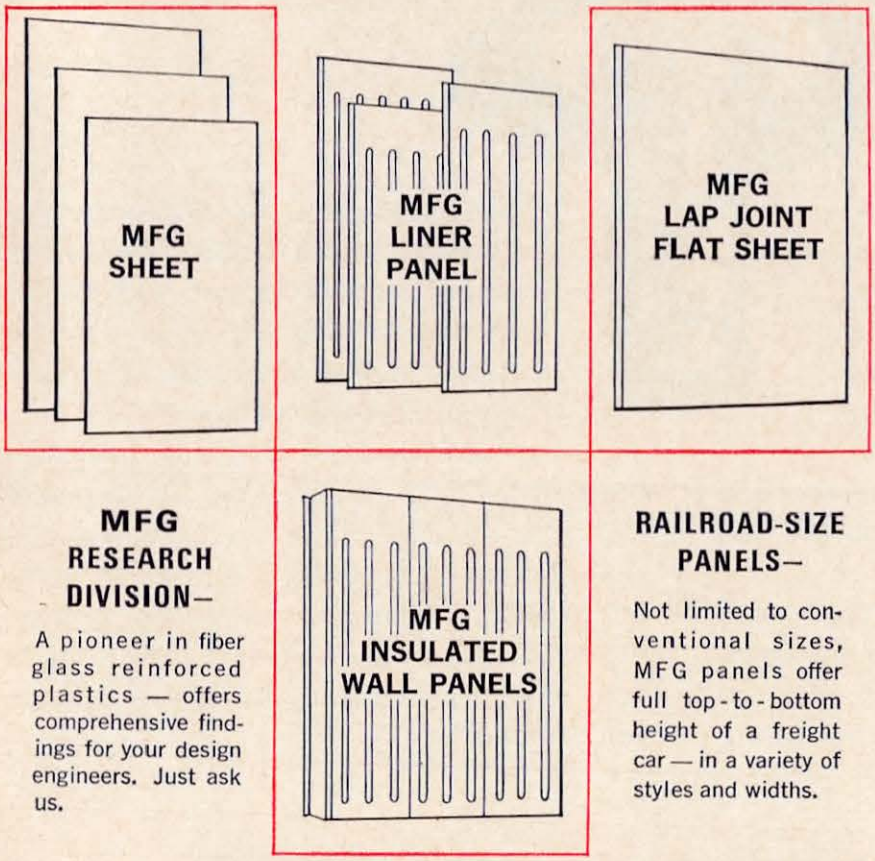

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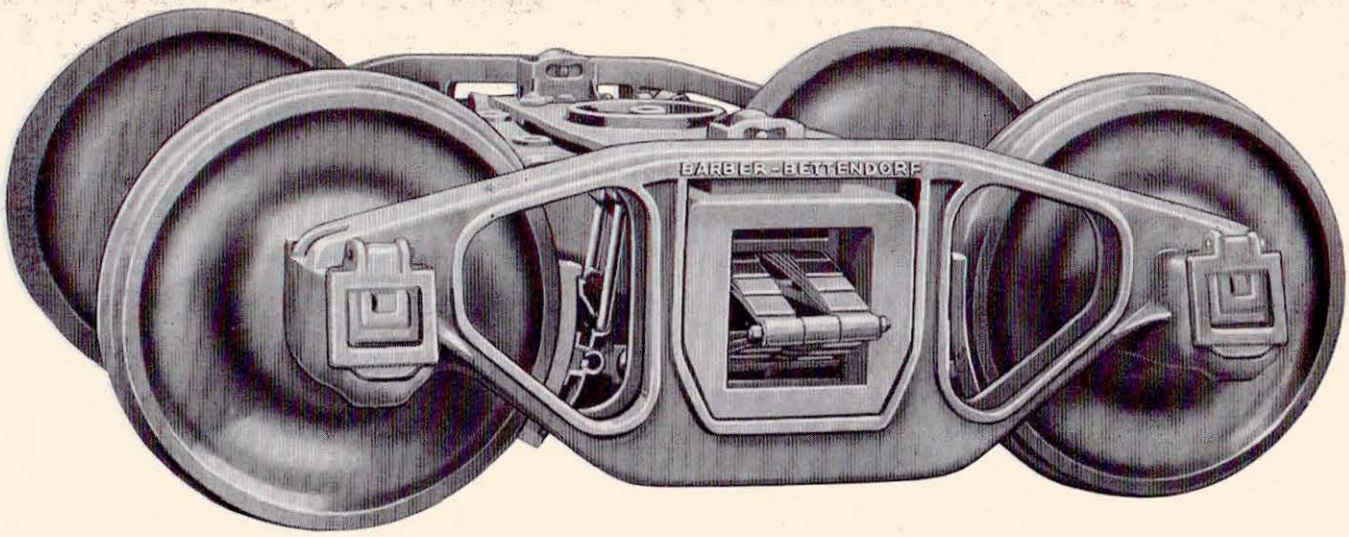

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TO INSTALL, LONG LIFE,

MINIMUM MAINTENANCE.

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RESULTS

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erated self-unloading vessels on the Great Lakes.

Supply Trade

Chemetron Corp., Chicago, has purchased the **Hammon Precision Equipment Co.** of Oakland, Calif.

Lawrence E. Huddy has joined the Chicago office sales staff of the **Okonite Co. E. Gordon Glewwe** has been named product manager—rubber power cables.

The **Rails Co.** of Maplewood, N.J., has announced appointment of **Robert B. Hornberger** as district sales manager and **George S. Hale** as assistant district sales manager, Pacific Coast area, San Francisco, Calif.

Donald W. Feidt, sales representative, Southwest District, Tank Car Division, **Union Tank Car Co.**, at Houston, Tex., has been appointed district sales manager of the new office at 818 Olive Street, St. Louis, Mo.

Edward W. Somers, sales representative, Industrial Packaging Department, **American Viscose Division, FMC Corp.**, in western Massachusetts and Connecticut, has been appointed Chicago district manager for the sale of Avistrap industrial strapping materials and tools. He succeeds **John Manierre,** resigned.

Diesel Accessories & Engineering Co., 3229 Washington Avenue, St. Louis, Mo. 63103, has been named a distributor for railroad air brake hose and fittings and industrial hose and fittings for **Parker-Hannifin Corp. Bill J. Butler** is manager of the distributor.

George Johnston, manager—bulk product sales, **Howe Richardson Scale Co.,** Clifton, N.J., has been named manager of a new division which will be concerned with sales, estimating, engineering, and manufacturing of equipment for bulk weighing applications.

Lord Corp. has purchased a 37,000 square foot plant from the White Engineering Corp., in Cambridge Springs, Pa. The plant will be equipped with new machinery and equipment to become a separate bonded rubber-metal production facility. It will supplement and augment the capacity of the **Lord Manufacturing Co.** in Erie, Pa., where an expenditure of more than $500,000 is planned for new equipment to be installed.

Donald M. Alstadt has been elected executive vice president of Lord Corp.

Ground was broken March 31 for the new $5 million **Strick Corp.** plant in southwest Chicago. The new site will house totally new programs in the production of transportation equipment. The plant is expected to be fully operative before the end of the year.

Jack Sell, regional sales manager, **Transicold Corp.**, has been named general sales manager, Montebello, Calif. **Court Jones** succeeds Mr. Sell at Chicago. **Robert A. Reider,** assistant to the sales promotion manager, has been appointed sales representative for the greater Los Angeles area, working out of Montebello. Two new distributors have been named: Automotive Sales Co., Phoenix, Ariz., and Rojo Trailer Repair Inc., Trevose, Pa.

Bill McCarty, regional sales manager, Detroit, promoted to eastern area sales manager there, with responsibility for all territory east of Chicago. **Farrel Wolfe** named regional sales manager, New York. New regional sales manager, Des Moines, Iowa, is **William Bryant,** formerly with Trailmobile. **Ed Flowers,** branch manager for Brown Trailer Co., North Carolina, named regional sales manager for Transicold, at Dallas, Tex. **Bill Fry,** assistant service manager, Los Angeles, promoted to branch manager, Los Angeles sales and service.

Rollie Schaal has been appointed head of the recently opened Transicold factory branch at 5301, West 38th Street, Cicero, Ill. Among the facilities, which represents a $350,000 investment, is a service school and working laboratory.

Union Switch & Signal Division, Westinghouse Air Brake Co. has announced realignment of district offices to a regional basis to suit changing market conditions. **W. R. Fisher,** district manager, Uniswitch Corp., Montreal, Que., Can., named manager, Eastern Region, New York. **A. F. O'Rourke,** sales engineer, Uniswitch, Montreal, named manager, Canadian Region, Uniswitch, Montreal. **R. H. Tomlinson,** assistant district manager, New York, appointed manager, Eastern Region Rapid Transit, New York. **S. J. Colcombe,** district manager, Pittsburgh, named manager, Central Region, Pittsburgh (Swissvale). **L. P. Tracy,** district manager, Chicago, named manager, Western Region, Chicago. **I. F. Cadman,** district manager, San Francisco, named manager, Pacific Region, there.

A. J. Kayser has been named to the newly created position of manager, O.E.M. accounts, **Frigiking Co.,** Dallas, Tex. He will be responsible for the sale of transport refrigeration and air conditioning products to manufacturers of railway equipment, trailers and trucks.

Allied Chemical Corp. has transferred its Agricultural Chemicals Department from General Chemical Division, Morristown, N.J., to Nitrogen Division, 40 Rector Street, New York. **T. W. Collins** is manager of sales of the department.

George F. Copeland, director-president, **Timken do Brasil, S/A** in Sao Paulo, Brazil, has been appointed general manager, **Canadian Timken,** Division of the **Timken Roller Bearing Co.,** at St. Thomas, Ont., succeeding the late **T. W. Clift.**

Ercole A. Carpentieri, Jr., director of sales, Timken do Brasil, S/A, has been promoted to director-president at Sao Paulo and has been succeeded by **Carlos O. Lacombe,** plant engineer.

Joseph F. Toot, Jr., general manager, **Timken Rollenlager,** B.m.b.H., Dusseldorf, Germany, appointed deputy managing director of **Timken France** and deputy managing director of **Timken Europe,** at Colmar, France. Mr. Toot will be succeeded by **Dr. Hans J. Lehmann.**

N. H. Peterson was recently elected vice president—corporate services, Timken Roller Bearing Co., at Canton, Ohio. He formerly served as assistant to the president. **William E Mott,** sales engineer, San Francisco, has been promoted to district manager, Railway Division, there, succeeding **J. W. Thomas,** transferred to Canton on Feb. 1.

N. R. Stevenson, formerly vice president of marketing, **M-H Equipment Co.,** has announced formation of a new organization, **Stevenson Equipment Co.,** Dallas, Tex., which will concentrate on design, manufacture and distribution of non-powered material handling equipment to railroads, air shipping, motor freight carriers and general industry.

OBITUARY

William H. Dana, retired chairman of the **Western Railroad Traffic Assn.** and the **Trans-Continental Freight Bureau,** died April 3 at Clearwater, Fla.

OPPORTUNITIES AT KERSHAW

MECHANICAL ENGINEERS—Preferably young graduate engineers, with 3 to 5 year's experience in design, development and testing of heavy construction machines.

SERVICEMEN — Preferably young, experienced mechanics, high school graduate—2 or more year's college highly desirable—for development and promotion to Sales and Service Representative.

SALESMEN—Preferably young college graduates in Commerce, Marketing major with a minimum of 5 year's successful selling experience.

If you are interested in a future with one of the most progressive manufacturers in the industry, please mail us your photograph, a complete resume of your experience, your educational background and other pertinent information.

Personnel Director Dept. RA 331

Kershaw Manufacturing Co., Inc.

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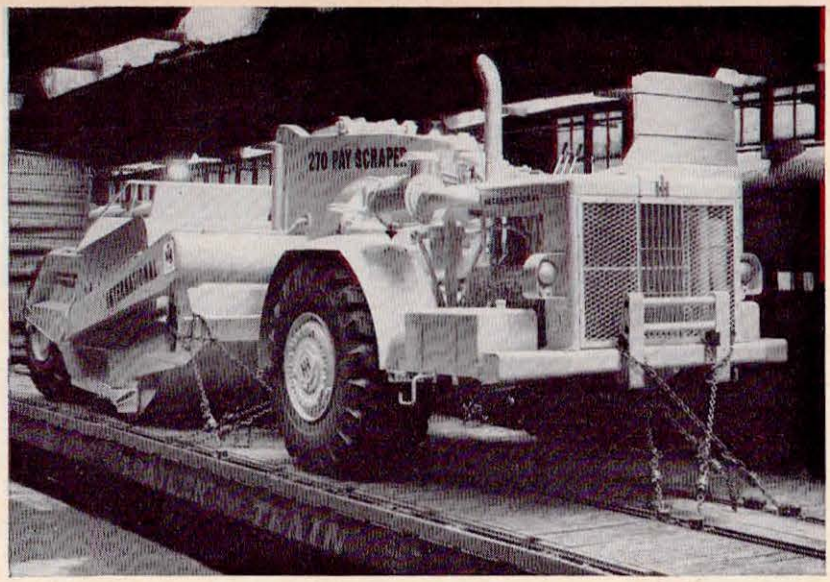
Montgomery, Alabama 36103



to ship the widest variety of loads safely...

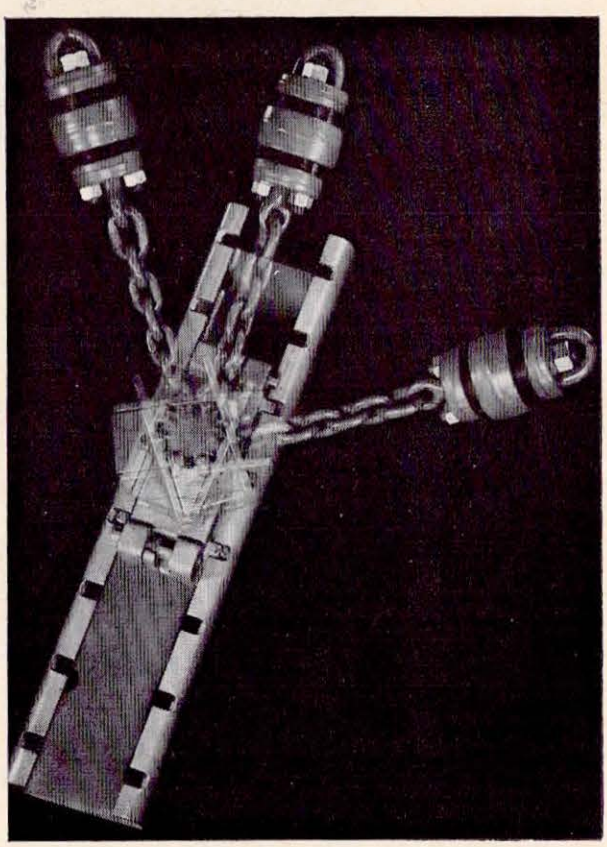
New M-F Load Securement System features 360° swivel-top winch

The new M-F load securement system for agricultural equipment and heavy vehicles was engineered to provide maximum versatility in securement of a wide variety of loads.

The M-F system incorporates four identical channels that run the length of the car. In these channels are placed the revolutionary M-F 360° Retractable Winches. The winch can be positioned and operated at 3″ intervals along the channel or stored in the channel below deck level when not in use. The winches rotate a full 360° so that the tie-down chain is always in a straight line with the winch.

Attached to each chain is an M-F Compression Unit that maintains a taut and resilient chain assembly during transit. Loading and unloading time is dramatically reduced. The F.I.E.I. approved system has gained remarkable acceptance with both railroads and shippers.

There is an M-F Tie-Down system available for every type of load including lumber, wallboard, pipe, automobiles and other products. Write for details.



RAILWAY TIE-DOWN

M F

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MAC LEAN-FOGG LOCK NUT COMPANY

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not
this!

keep conduits

WHERE THEY BELONG...
ON YOUR CARS

not in shops...not in storehouses...

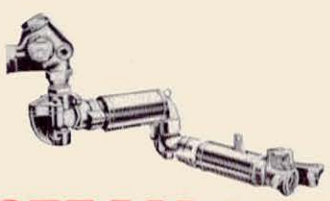
WITH IN SERVICE MAINTENANCE*

- ELIMINATES YEARLY REPAIRS
- ASSURES CONTINUED SERVICE OF THE CARS
- REDUCES COSTLY INVENTORY

Conduits stay in service with 100% leak-proof efficiency after minutes of "in service maintenance." Any part of a Steam-Life Conduit can be replaced by one man on the car in service, with *one* wrench. Even body castings are replaceable in minutes.

In service maintenance keeps conduits and trains in service without shopping conduits, without maintaining expensive conduit inventories and overhaul facilities.

*IN SERVICE MAINTENANCE means conduits are maintained on the car.



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For Full Information Write:

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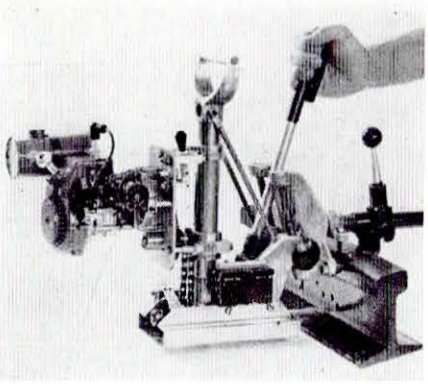
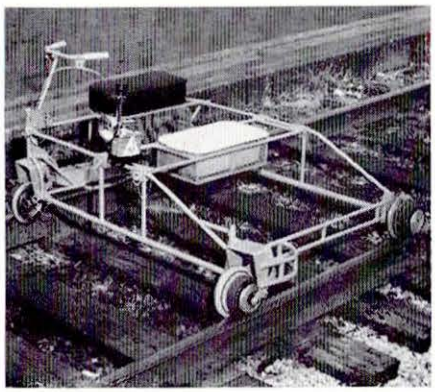
NEW PRODUCTS REPORT



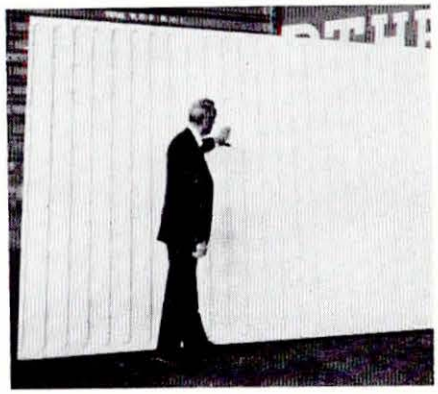
Rail Bonding Drill (RA-1)

A power-operated, lightweight and high-speed rail bonding drill, designated P650, has been made available. The unit weighs only 25 lb and is equipped with a 1-hp gasoline engine. Designed for easy portability by maintenance forces in their routine maintenance and renewal work, the new drill is available with set-screw or collet chuck for 3/8-inch or 9/32-inch bonding bits. A hand lever adjusts speed of the bit. *Railroad Accessories Corp.*



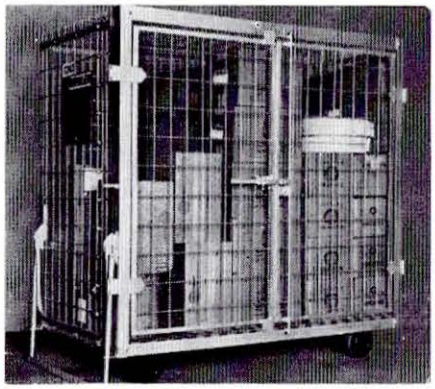
Trackscoot (RA-2)

A self-propelled emergency means of mobility has been developed for one man and his tools. Designated the Trackscoot, the unit may be disassembled quickly into three components and carried in an automobile or light truck. The Trackscoot can attain a top speed of 20 mph, traveling about 100 miles per gallon of fuel on four flanged wheels with rubber treads, carrying a load in excess of 800 lb. *Railway Techniques, Inc.*



Insulating Panel (RA-3)

The newest Landreth panel combines rigid polyurethane foam bonded to a molded fiberglass-reinforced plastic facing. The fiberglass combined with polyester resin is molded under matched metal dies, then joined together by a special process. Finished panel is comprised of 3 in. of urethane foam faced by ⅛ in. of fiberglass-reinforced plastic. Panels can be produced in various thicknesses in sizes up to 30 ft in length, 10½ ft in width. *Landreth Industries.*



Cargo Cage (RA-4)

The Lite-Haul all-steel cargo cage features a bolted assembly that permits the replacement of damaged sections. Wrap-around hinged doors fold back against sides of cage. Locking mechanism, similar to type used on freight trailer doors, holds fast against possible weight of shifting cargo. The handle of the simplified brake may also double as a pulling bar. The cage may be had in a variety of sizes, with optional equipment to meet specific needs. *Behlen Mfg. Co.*

Track Gauger (RA-5)

The Racine Track Gauger is a mobile device for visually checking standard 56 1/2-inch track gauge. The device is towed behind a motor car. Its large dial indicator measures maximum tolerance of plus and minus 1 inch from zero in 1/4-inch increments. The gauge wheels are of hardened steel and have ball bearings. Rubber-tired running wheels and insulated gauge wheels give full signal protection. *Racine Hydraulics & Machinery, Inc.*

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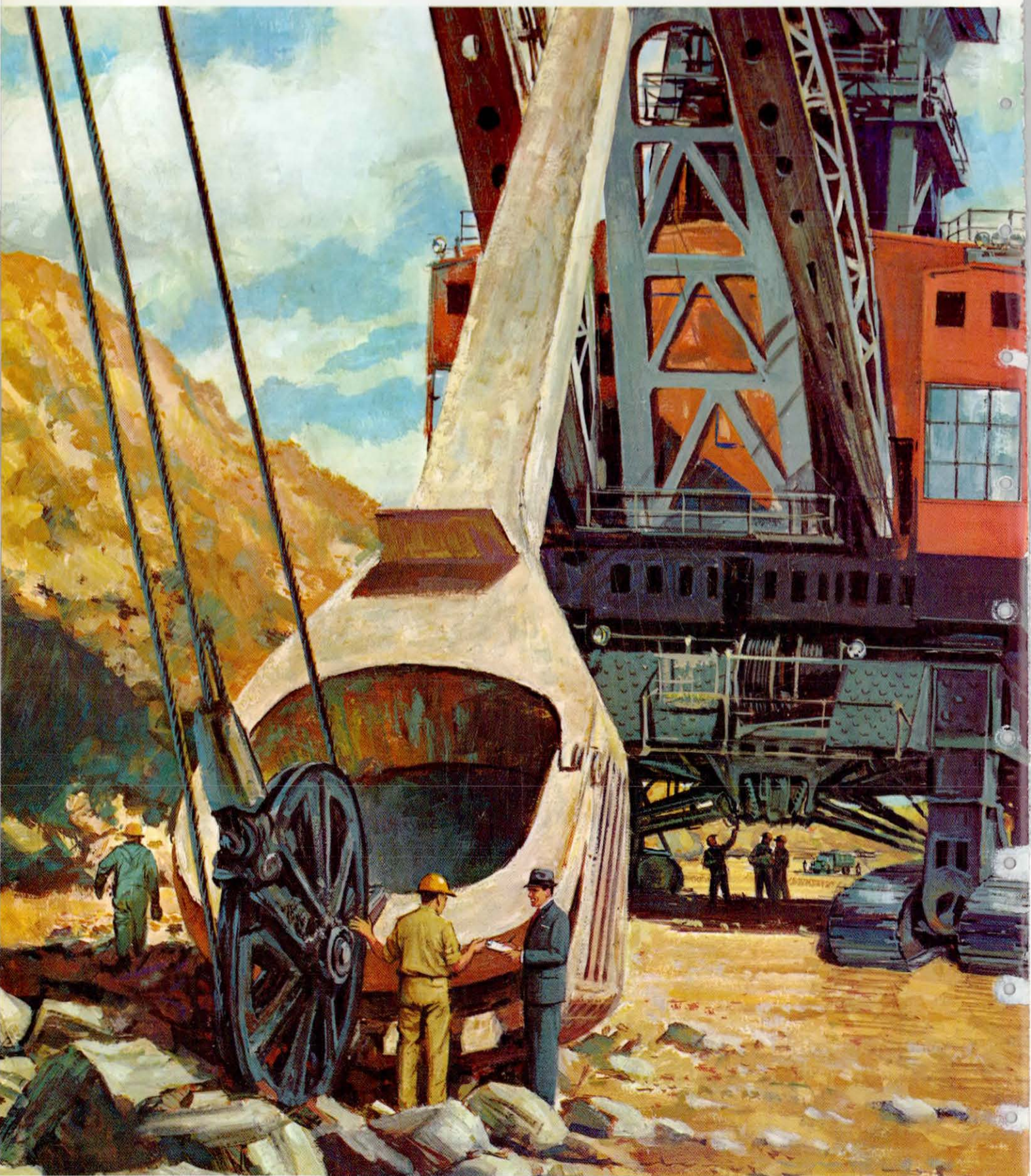
The Man From CITGO



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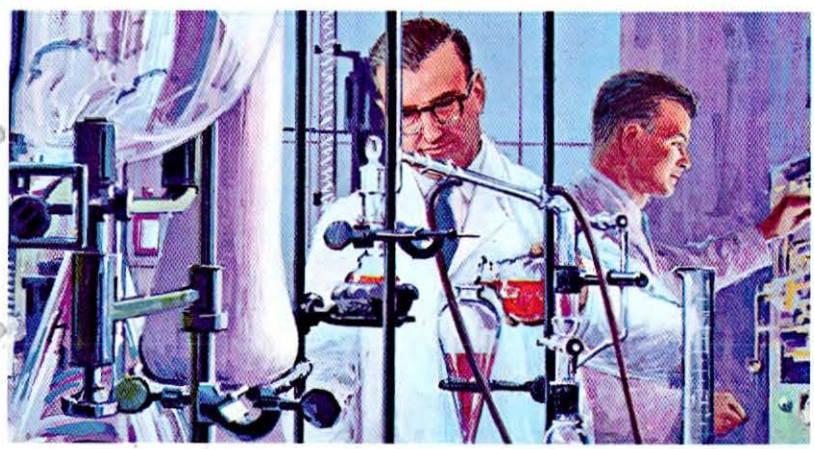
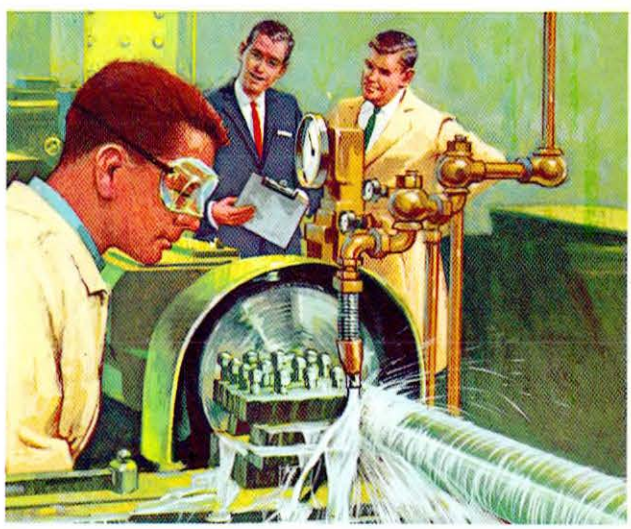
CITGO *Technical Service Consultants... ready to find practical answers to your technical problems... quickly, efficiently, economically*

CITGO's Technical Service Consultant Department is geared to respond to your questions and attack your problems fast. We send expert help . . . not letters. And, if we can't help you with what we've got, we'll spare neither time nor effort to develop new products that will do the job. We want your industrial business and we'll *deliver* to get and keep it. If you like to do business with people that have a progressive point of view, backed by 50 years of know-how . . . call your CITGO Representative today. He's ready to serve you.

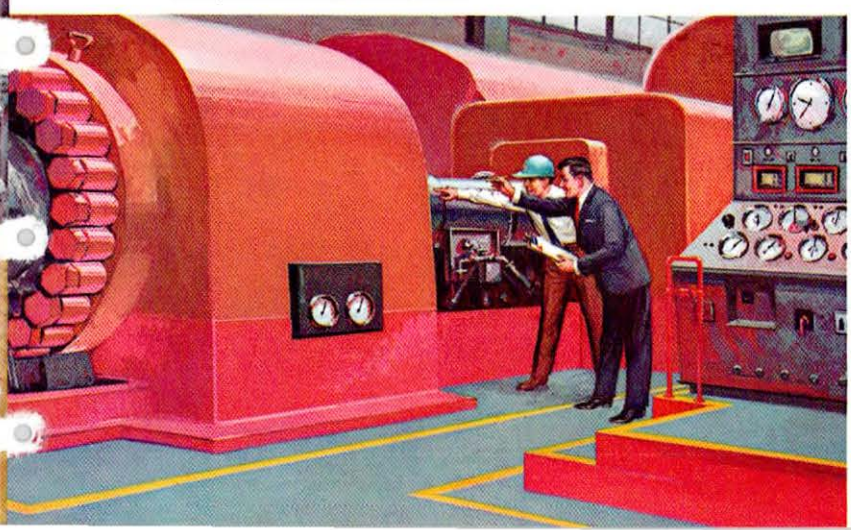


CITGO Research is continually at work today to find the answers to tomorrow's lubricant problems.



Need an answer to a sticky lubricant problem? CITGO's Technical Service Consultant will be on the job faster than ever with answers . . . not promises.

Whatever your problem—large or small—CITGO will approach it with new ideas, new vitality, and new, dynamic spirit . . . for fast, economical solutions.



CITGO—new name from Cities Service for one of America's leading petroleum companies.

Electronic height-width detector

This new bulletin can save you tons of grief

You know Hanlon & Wilson as makers of dependable diesel manifolds, exhaust systems and signaling equipment. Now H & W brings you the new 1000 Series of Photo Electronic Detectors that detect presence, count cars, and measure height, width and contour of the train. New features provide speedy alignment and installation, with pin-point accuracy under all conditions and with no false alarms. Send for your free copy of descriptive bulletin.

HANLON & WILSON COMPANY

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3 OUT OF 4 GO BACK

Most heart attack victims survive first attacks. Of those who do, three out of four go back to work, often to the same job.

This farmer is back at his plow because of improved methods of diagnosis, treatment and rehabilitation discovered through heart research.

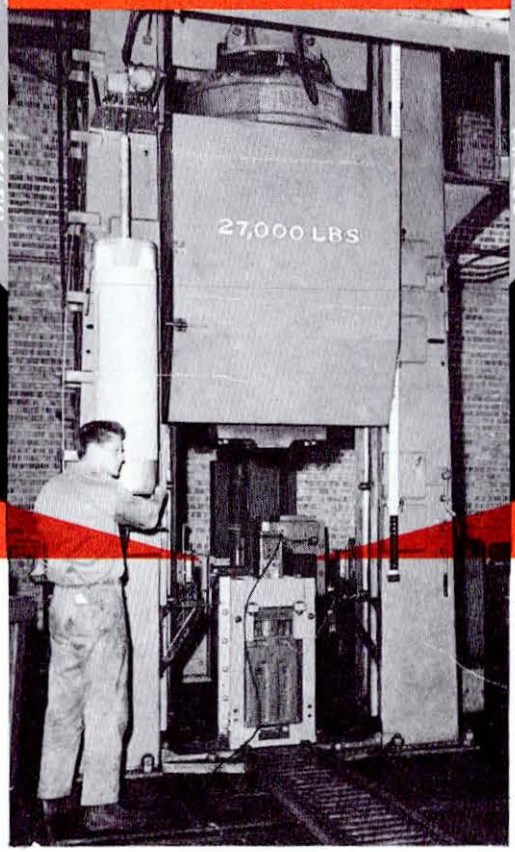
Close to 100 million of your Heart Fund dollars, invested in research since 1949, helped make this possible.

GIVE...

so more will live

HEART FUND

WE'VE HAMMERED OUT THE BUGS *and...*



we've further perfected the performance of our gears

ON OUR IMPACT TEST TRACK

By combining the use of our 27,000-lb. drop hammer with exhaustive performance tests on our impact test track to simulate the most severe operating conditions of rolling stock, you can be certain the Cardwell Westinghouse draft gear you select, will perform efficiently with maximum car protection and minimum maintenance costs.

Whatever your car requirements, there is always a dependable Cardwell Westinghouse draft gear to meet them. Profits increase when you specify Cardwell Westinghouse!

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Florida East Coast Railway Co.

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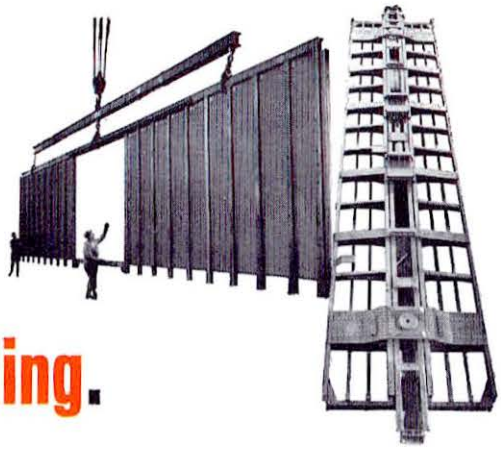
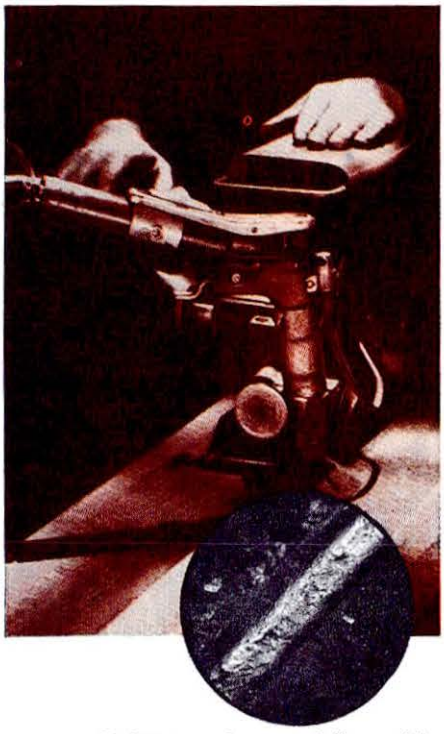
"To those of us whose daily fare is railroading, it brings a welcome summation and interpretation of what is taking place throughout our industry."

W. L. Thornton

What makes Berwick's car components so solid?

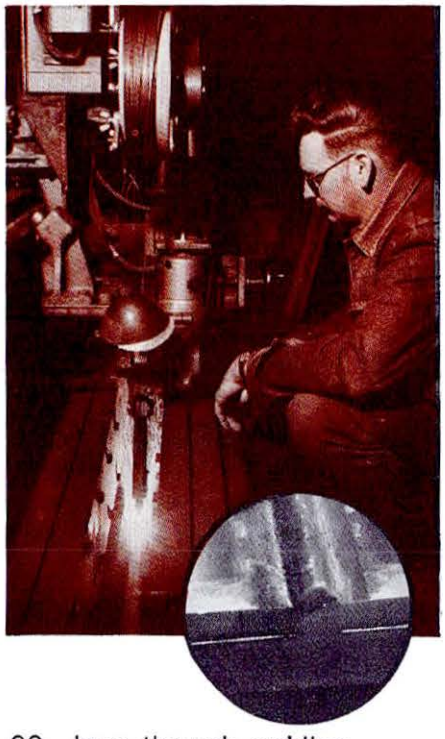


First of all . . . the welding.



Submerged arc welding with a semi-automatic unit gives 70% penetration specified by the buyer. A uniform weld with no undercut can be laid at the rate of 12" per minute with no joint preparation. This job would be nearly impossible to do by hand without a lot of costly, time consuming preparation. Machines also do x-ray quality work.

Forged reinforcements are being welded to a center-plate using flux-cored electrode with continuous wire feed. With this equipment, Berwick's welders can apply a ½" fillet weld in a single pass and make a more rigid center plate at the same time. Close-up shows practically no splatter. This welding method increased production 60% and savings are being passed on to the buyer.



CO_2 burn-through welding equipment was engineered for Berwick to weld car sides. A unique hold-down arrangement provides positive contact between post and skin the entire 10′ . . . an important factor for a good job. This method generates far less heat than the submerged arc . . . straighter sides are the result. Close-up shows uniform, clean weld pattern . . . no slag or splatter to clean up.

Berwick's old-style craftsmen have been building railroad equipment longer than anyone else in the country . . . since 1894. Armed with new techniques and equipment, they can deliver the kind of car components you need in less time than you think possible. How 'bout letting us bid on your next order?

Berwick Forge and Fabricating Corporation

Berwick, Pa. Chicago office: 80 E. Jackson Blvd.

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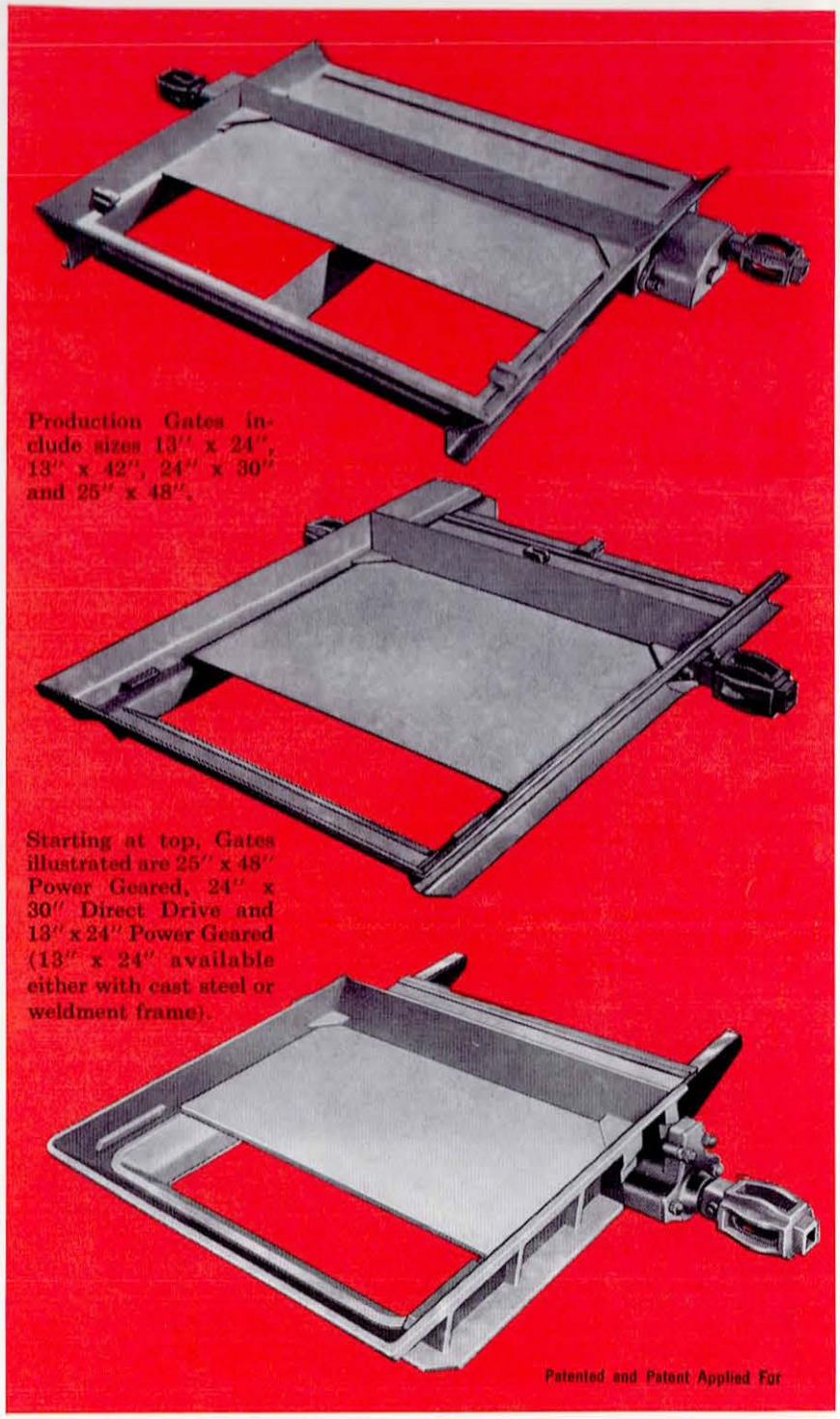
WINE

CAN SUPPLY ANY TYPE AND SIZE DISCHARGE GATE



Production Gates include sizes 13" x 24", 13" x 42", 24" x 30" and 25" x 48".

Starting at top, Gates illustrated are 25" x 48" Power Geared, 24" x 30" Direct Drive and 13" x 24" Power Geared (13" x 24" available either with cast steel or weldment frame).

Patented and Patent Applied For

choice of

VARIOUS DRIVING MECHANISMS

- Power geared, different ratios
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NOTE: Regardless of drive, all Gates for Center Discharge cars have opening capstans at *either* side of car for faster, more convenient operation.

trouble-free installation, operation

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NO EXTRA PARTS REQUIRED

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PRECISION BUILT FOR TIGHT FIT AND NO-BIND OPERATION

If the size and type Gate you want isn't currently in production, we can make it for you — whatever your specifications.

Nobody has the design know-how, the 52 years of railway supply experience or the in-plant production capabilities of Wine.

See your local Wine sales representative for all your appliance needs. For prompt information on special applications and Gate sizes, please write the Sales Department, Toledo 43609.

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Current Publications

THE COST OF TRUCKING: ECONOMETRIC ANALYSIS, by M. L. Burstein and others. 137 pages, tables. Wm. C. Brown Company, 135 South Locust St., Dubuque, Ia. 52003. $4.50.

DIRECTORY OF RAILWAY OFFICIALS AND YEAR BOOK, 1965-1966, compiled from official sources under the direction of the editor of the Railway Gazette. 692 pages. Tothill Press Limited, 161/166 Fleet St., London, E.C.4, England. 70 shillings. (Approximately $9.80).

Changes in the present volume are both numerous and extensive, as necessitated by railway progress in many parts of the world, but the scope is generally the same. Political developments continue to cause changes in nomenclature. The Nyasaland Railways became the Malawi Railways on October 1, 1964; Tanzania replaces Tanganyika. Countries appearing for the first time are Liberia, with important mineral railways, and Gabon, with a projected state railway. All the useful statistics and data on railways and officers are continued.

COST, PRICES, AND PROFITS: THEIR CYCLICAL RELATIONS, by Thor Hultgren. 229 pages, tables, charts. National Bureau of Economic Research, 261 Madison Ave., New York 10016. $6.

THE NICKEL PLATE STORY, by John A. Rehor. 483 pages, illustrations, map and profiles. Kalmbach Publishing Company, 1027 N. Seventh St., Milwaukee, Wis. 53233. $16.50.

QUALITY CONTROL AND RELIABILITY ENGINEERING FOR RAILROAD OPERATIONS. 67 pages, charts, tables. Railway Systems & Management Association, 163 East Walton St., Chicago, Ill., 60611. Flexible cover, $5; case binding, $8.25.

ECONOMICS OF TRANSPORTATION, by D. Philip Locklin, 6th ed., 882 pages. Richard D. Irwin, Inc., Homewood, Ill. $12.65.

THE ROUNDHOUSE, PARADISE, AND MR. PICKERING, by Dick Perry. 208 pages. Doubleday & Company, Inc., 277 Park Ave., New York, 10017. $4.50.

TRANSPORTATION AND ECONOMIC POLICY, by John B. Lansing, 409 pages. The Free Press, 60 Fifth Ave., New York, 10011. $7.95.

Dividends Declared

ATCHISON, TOPEKA & SANTA FE.—40¢, quarterly, payable June 1 to holders of record April 29.

CAROLINA, CLINCHFIELD & OHIO.—$1.25, quarterly, payable April 18 to holders of record April 7.

GREAT NORTHERN.—75¢, quarterly, payable May 2 to holders of record April 15.

RICHMOND, FREDERICKSBURG & POTOMAC.—$1.50, quarterly, paid April 12 to holders of record April 1.

UNITED NEW JERSEY RR & CANAL.—$2.50, quarterly, payable July 11 to holders of record June 20.

WABASH.—4½% Preferred, $4.50 annual, paid April 15 to holders of record April 1.

STUCKI side bearings

Proven dependability after **MILLIONS** of miles of service on **THOUSANDS** of high speed piggyback cars

A. STUCKI CO.
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SIGNS • REPAIR PARTS • DAMAGE INSPECTION • TOOLS • BATTERIES • PARTS • WHEELS • EQUIPMENT • RAILS • TIES

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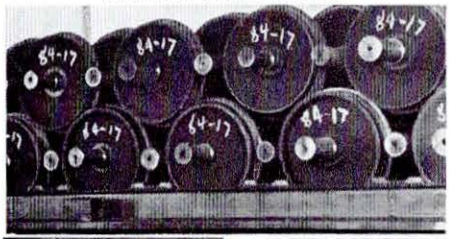

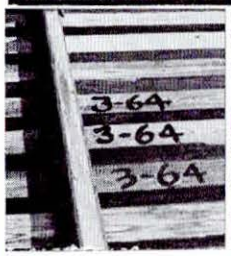

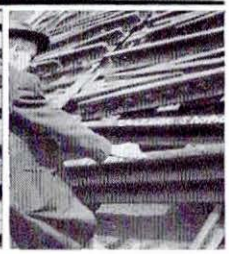

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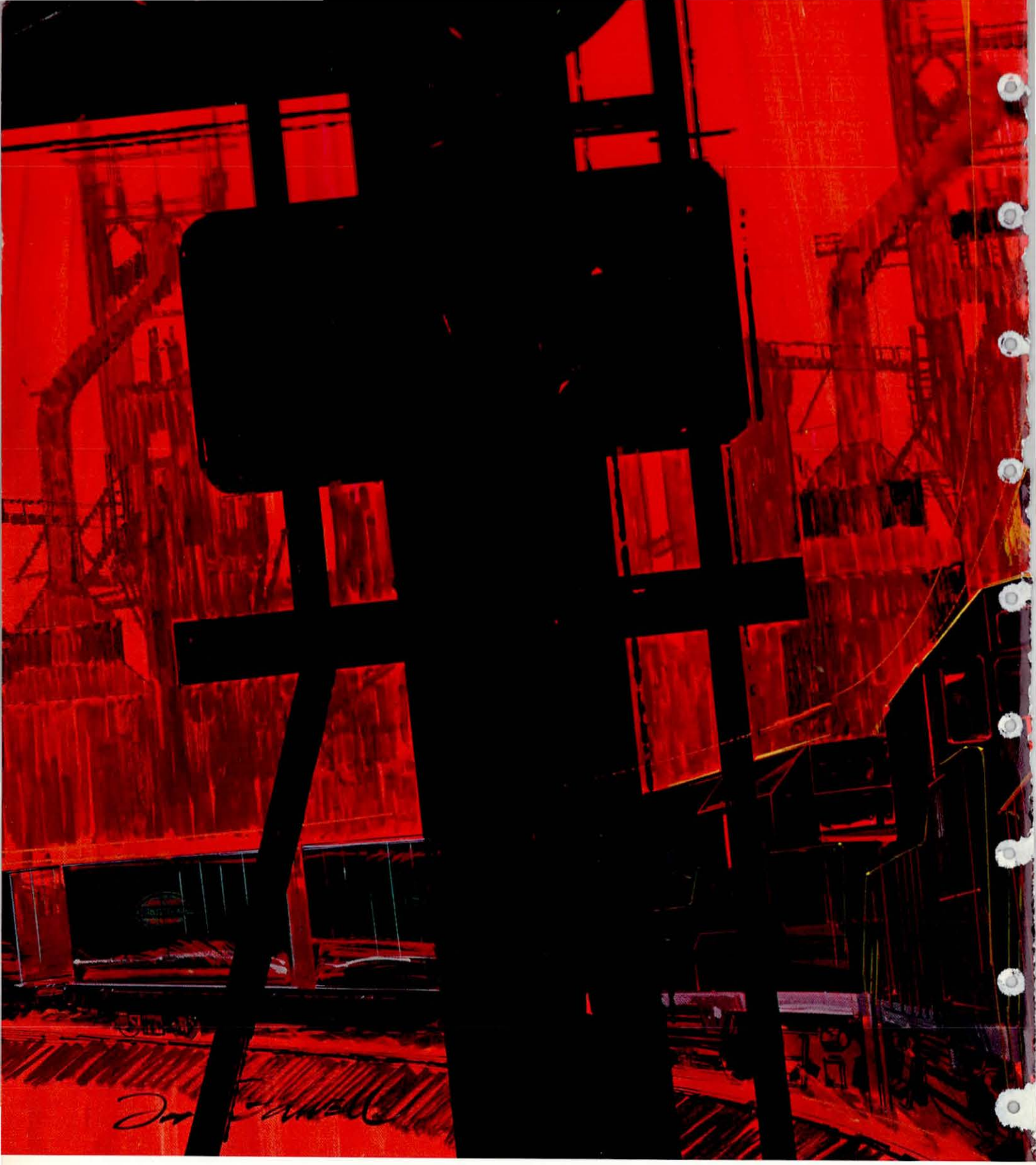

Fast and sure!

That's what shippers say about the New York Central's daily Flexi-Van freight service between New York City and Chicago. One of the things that makes it so is new General Motors power at the head end. Fifty new 3000 horsepower GP-40 locomotives are delivering more efficient and economical motive power to the New York Central's fast, efficient freight schedules. The new General Motors 645 Diesel engine, solid state electrical controls, ac/dc transmission, and other longer-life components in the GP-40 put more power on the rails at lower cost than ever before.

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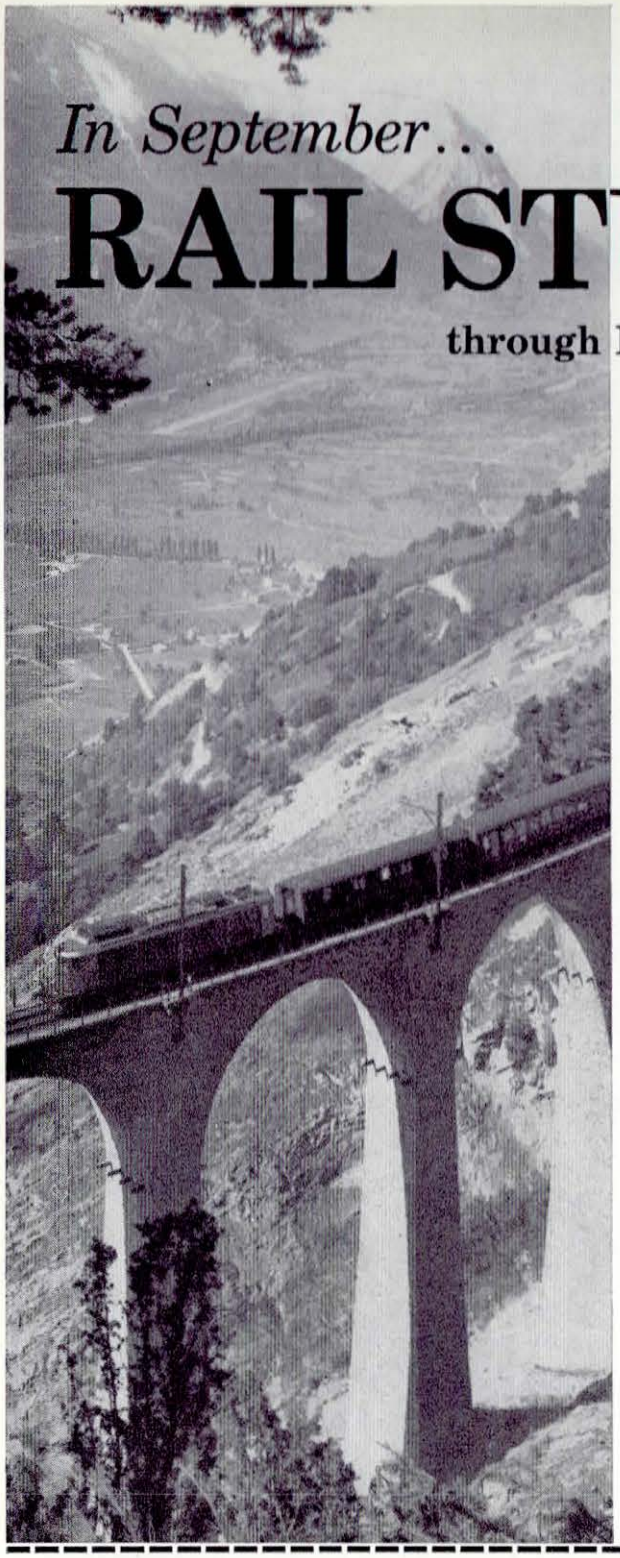

In September...

RAIL STUDY TOUR

through Europe's busy passenger traffic hub

Sponsored by Railway Age

What makes that hardy perennial – European rail travel – thrive? What can we learn from their operations?

A group of kindred spirits professionally interested in the passenger side of railroading will get some of the answers during Railway Age's forthcoming Passenger Study Tour. A distinct fringe benefit–travel through Europe's most fabulous scenery, and a weekend at a world famous resort.

The tour will be headed by a member of the staff of Railway Age. The group will leave from Kennedy Airport, New York, Tuesday, Sept. 6th on Swissair Flight 113, and return Sept. 20th. The itinerary includes visits to Switzerland, Italy, France, Holland and Germany, with stop-overs at Geneva, Berne, Milan, Nice, Paris, Amsterdam, Utrecht and Frankfurt. Apart from the air trip to and from Switzerland and a Riviera motor tour, travel will be all-rail, including trips on the finest Continental name trains. Arrangements have been made for conferences with passenger officials in each of the countries visited–exchanges bound to be mutually beneficial. There will also be ample opportunity for sightseeing tours in the cities scheduled, and leisure periods to do with as you please.

The Passenger Study Tour is offered at cost–$775–which includes air fare, First Class rail accommodations, de luxe hotel rooms, hotel gratuities, two meals a day at hotels, and dining car meals. A tour conductor will function throughout the entire European itinerary. An optional extra week in Europe involving no additional outlay for the return trip is available to those interested. Your Eurail pass allowing free rail travel will also still be valid.

This will be a rewarding experience–one you will long remember. A timetable outlining the complete itinerary is available on request. Early reservation is advisable as capacity is limited. Please use the convenient coupon herewith and plan now *to go!*

This is the second Railway Age European Tour this year. A Rail-Transit Seminar Tour–July 19 to Aug. 4–will visit six countries, including England and Russia.

MR. ROBERT G. LEWIS
Railway Age Passenger Study Tour, 30 Church St., New York, N. Y. 10007

☐ Please make reservations for the following persons on the Sept. 6-20 Tour.

☐ I am enclosing a deposit of $100 for each reservation requested.

☐ Please send complete information, with detailed itinerary.

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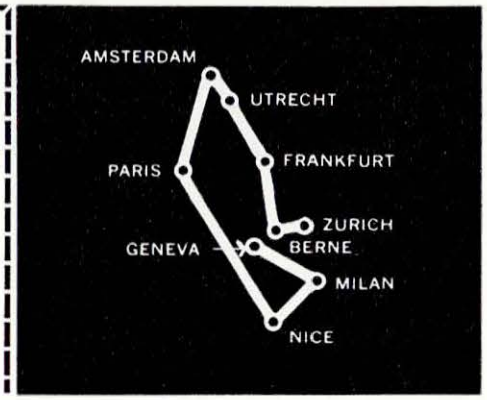


Southern asks ICC for ruling on empties

The Southern says it is handling revenue freight when it moves empty cars in compliance with distribution orders issued by the ICC to alleviate shortages. It has asked the Commission to order that it be compensated for such service on the basis of published rates for the movement of empty freight cars on their own wheels.

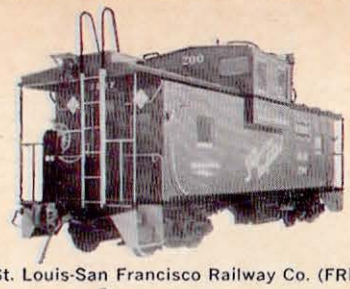
Southern's petition marks the first time that this issue of compensation has been raised formally before the Commission. The matter has come up in the past, however, in conection with distribution orders issued by the AAR's Car Service Division. The Association is understood to have taken the position that compliance with such orders without compensation is contemplated by the Car Service Rules.

● **The ICC order.** The ICC order involved is one of the so-called Pfahler orders, or car distribution directions, to give them their official name. They are issued by the director of the Commission's Bureau of Safety and Service, R. D. Pfahler, in his role of Commission agent under Service Order 981.

Distribution Direction No. 2 is the basis of Southern's plea. Originally effective Jan. 27, it first required the Seaboard Air Line to deliver 350 cars a week to Southern for delivery to the Burlington. The 350 figure is used in the Southern petition which also cites Service Order 973 as the source of Pfahler's authority. The petition is dated March 30, though it was not made public by the Commission until Apr. 11. Meanwhile, Service Order No. 973 was supplanted by Service Order No. 981 on Apr. 4, and the Pfahler direction was then modified to cut the number of cars involved to 175 a week.

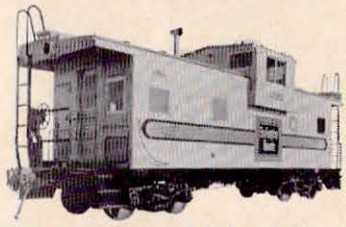
● **IC Act cited.** Southern notes that the Commission's authority to issue car-distribution orders is found in the Interstate Commerce Act's Section 1(15). It then emphasizes how this section also provides that required distribution arrangements shall be "upon such terms of compensation as between the carriers as they may agree upon, or, in the event of their disagreement, as the Commission may after subsequent hearing find to be just and reasonable."

Under the Pfahler direction, Southern is prohibited from using the cars, the petition notes. It also says that



St. Louis-San Francisco Railway Co. (FRISCO)

St. Louis Southwestern Railway Co. (COTTON BELT)



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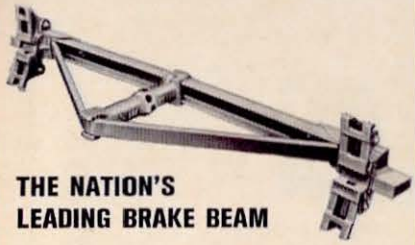

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Southern's only points of interchange with the Burlington are Centralia, Ill., and East St. Louis—so Southern is required to move the cars "for distances as great as 1,083 miles." Meanwhile, it incurs costs of operating the trains it must run to comply with the direction, and it is liable for per diem rentals on foreign cars included in the movements.

• **The tariff rate.** What Southern wants is 32½ cents per mile for moving the cars, and reimbursement for per diem rentals it may be required to pay on them. The 32½ cents per mile would be the same as the Burlington charges under its tariffs for moving an empty freight car, the petition says. It notes, too, that the Burlington does not pay any per diem on such a car.

Southern goes on to report that it has attempted to reach an agreement with the Burlington on compensation—but the latter "has repeatedly refused, and still refuses, to acknowledge its obligation to compensate Southern." Thus, the petition's prayer that the Commission fix the 32½-cents-per-mile rate and relief from per diem as just and reasonable compensation for the service involved. ■

LETTERS FROM READERS

Ticketing needs improving

Ames, Iowa

To the Editor:

Your column, "Watching Washington with Walter Taft," in the March 7, 1966 issue, concerned the SP and its Shasta Daylight, and raised a question in my mind.

The ICC examiner was critical of the railroad for not promoting the train, and he listed several reasons for feeling this way. Your article pointed out that the SP had spent large sums for advertising the train, but that the results were poor.

Were the examiner's criticisms valid during the time that the SP had an extensive advertising campaign? It is not possible that it was inconvenient to buy tickets then too? I have felt that the image portrayed by an ad is not the same image one gets when trying to deal with the railroad.

Ames no longer has railroad passenger service, but Des Moines does. On a trip where rail reservations would be necessary, I decided to contact a local travel agency to make the arrangements; their fee was 3% or some such figure. The outcome of all this was:

I had to pay the travel agency.

The travel agency could not issue the tickets, and apparently couldn't get them.

When I arrived at the rail station, I learned that my tickets had not been prepared; the clerk on duty didn't know anything about them; and couldn't see how the travel agency arrived at the amount on the receipt I had. I finally got my tickets without paying any more money.

This kind of experience hurts railroad passenger business; advertising to the contrary notwithstanding. Couldn't the railroads learn something about ticketing from the airlines?

J. O. Storry

Unit-train service

Brownsville, Pa.

To the Editor:

It has come to my attention from various readers of Railway Age that in your issue of February 21 there was an article on page 32 concerning "Consol Coal: New unit-train owner."

In the last paragraph of this page there were several examples of unit train movement and it states: "Loveridge, West Virginia to Bow, N. H., 868 miles via Pittsburgh & Lake Erie; New York Central and Boston & Maine to Public Service of New Hampshire at Bow."

Several of my employees feel that an injustice has been done to the Monogahela Railway because we serve this mine at Loveridge and haul this coal approximately 80 miles and interchange it with the Pittsburgh & Lake Erie and they play a very vital part in this movement.

A. J. Molyneaux
Superintendent
Monongahela Railway Company

Historical group formed

Laramie, Wyoming

To the Editor:

We have recently established a Transportation History Foundation to collect historical documents (diaries, ledgers, journals, correspondence, photographs, maps, and general business memorabilia) on the development of American railroads. We are particularly interested in acquiring the names of individuals or families who have accumulated historically important material.

Any suggestions from the readers of Railway Age would be greatly appreciated.

Gene M. Gressley, Director
Transportation History Foundation
University of Wyoming

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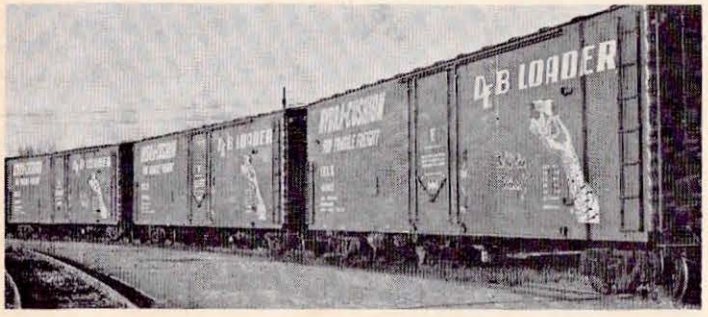

3. Finally, they're proven in over-the-road tests under actual operating conditions as a prototype car or in one of Evans fleet of EELX rolling laboratory cars.

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Evans R & D begins well ahead of product conception. It starts with research into the needs of railroads and their shipper customers. Through field studies, it determines exact requirements. Our engineers then design the equipment or cars to do the job. After completing stress analyses and laboratory tests, the car or equipment is then impact tested.

The next step is over-the-road field testing as a prototype car or in an EELX rolling laboratory car.

Even after the car or equipment has been accepted by the railroad, Evans engineers continue to follow the progress of the cars and equipment in the field, assuring railroads and shippers of the utmost in dependability and satisfaction with every Evans device or car.

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended April 9 totaled 568,412 cars, the Association of American Railroads announced on April 14. This was an increase of 24,027 cars, or 4.4%, compared with the previous week; an increase of 11,345 cars, or 2.0%, compared with the corresponding week last year; and an increase of 51,978 cars, or 10.1%, compared with the equivalent 1964 week. Ton-miles generated by carloadings in the week ended April 9 are estimated at 14.2 billion, an increase of 7.6% above the corresponding week of 1965, and 19.0% above the 1964 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, April 9

District	1966	1965	1964
Eastern, including Allegheny and Pocahontas ..	227,313	235,434	212,062
Southern	117,325	118,104	96,711
Total Eastern and Southern Districts	344,638	353,538	308,773
Northwestern .	72,893	60,798	62,010
Central Western	113,313	104,407	107,529
Southwestern .	37,568	38,324	38,122
Total Western Districts	223,774	203,529	207,661
Total All Roads	568,412	557,067	516,434
Commodities:			
Grain and Grain products	51,728	48,007	42,334
Livestock	1,538	1,939	2,090
Coal	112,195	104,629	95,967
Coke	8,211	9,219	7,560
Forest Products	39,493	38,133	34,569
Ore	30,482	26,827	27,095
Merchandise l.c.l.	6,673	9,902	12,881
Miscellaneous .	318,092	318,411	293,938
April 9	568,412	557,067	516,434
April 2	544,385	542,094	508,150
March 26	570,481	534,565	513,930
March 19	572,573	543,576	524,149
March 12	557,600	548,736	509,057
Cumulative total, 14 weeks ...	7,556,546	7,419,744	7,223,994
Estimated revenue ton-miles (billions) 14 weeks	190.5	175.8	170.5

PIGGYBACK CARLOADINGS—U.S. piggyback loadings for the week ended April 2 totaled 20,450 cars, carrying 34,054 trailers, compared with 20,730 cars, carrying 33,285 trailers, in the corresponding 1965 week. Loadings for 1966 up to April 2 totaled 270,026 cars, carrying 446,540 trailers, compared with 246,067 cars, carrying 396,728 trailers, in the corresponding period of 1965.

IN CANADA—Carloadings for the seven-day period ended March 21 totaled 77,456 cars, compared with 75,938 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
March 21, 1966	77,456	28,685
March 21, 1965	72,087	25,605
Cumulative Totals		
March 21, 1966	827,441	292,721
March 21, 1965	768,434	271,699

FREIGHT-TRAIN CARS

► *Canadian National.*—Ordered 200 50½-ft, wide-door box cars for its "Yellow Door" fleet for newsprint shipments from National Steel Car Corp. The road also plans to build 20 bi-level auto-rack cars in the St. John's dockyard, utilizing the underbodies of surplus ballast cars.

► *Chicago & North Western.*—Ordered 150 Center Flow dry-bulk commodity cars at a cost of approximately $2 million from ACF. The 2,970-cubic foot cars will be equipped with four 30-inch loading hatches and two gravity discharge unloading outlets. They will be used to transport cement, clay and grain. Delivery is scheduled for late in the third quarter of this year.

► *Soo Line.*—Will acquire 355 new freight cars and 10 cabooses, in addition to four new locomotives in a $6.6 million 1967 equipment program authorized by directors. Company shops at Fon du Lac, Wis., will build 200 box cars; contract car builders will furnish 50 gondolas, 25 hopper cars, 25 insulated box cars, 25 bulkhead flat cars, 20 covered gondolas, 10 flat cars and the 10 cabooses.

LOCOMOTIVES

► *Soo Line.*—The 1967 equipment program will include acquisition of 4 3,000-hp diesel-electric units, which will be the most powerful units on the road's roster.

NEW FACILITIES

► *Central of Georgia.*—Ordered two complete highway crossing protection systems from Union Switch & Signal Division of WABCO.

► *Missouri Pacific.*—Has ordered CTC equipment, including a solid-state 550 Flexicode system, from Union Switch & Signal division of WABCO for installation on their line between Odem and Sinton, Texas, about 8 miles.

► *New York City Transit Authority.*—Has awarded a $1,350,000, contract for N-X (eNtrance-eXit) interlocking control equipment to the General Railway Signal Co. to expand control on their Broadway 4th Ave. line. Controls for a diamond crossover will be added to the existing DeKalb Ave. N-X control machine, and the system will be resignaled from the Court Street Station to the Lawrence Street Station.

► *Spokane, Portland & Seattle.*—Work will begin in the near future on a line relocation made necessary by construction of John Day Lock and Dam on the Columbia River. The U.S. Army Corps of Engineers has awarded a contract for $3,041,654 to Dravo Corp. for track-laying and associated work; another contract for $215,000 has been awarded to National Cylinder Gas Division of Chemetron Corp. for rail welding.

► *Santa Fe.*—Ordered CTC equipment from Union Switch & Signal Division of WABCO for its York Canyon connections.

► *Texas & Pacific.*—Has ordered type E retarder equipment from the General Railway Signal Co. for installation at Lancaster Yard, Ft. Worth, Texas.

YOU OUGHT TO KNOW

WABCO to expand R&D staff: A rapid increase in orders for railroad traffic control, signal and classification equipment—and new national interest in urban mass transit—is prompting Westinghouse Air Brake Co. to add 100 engineers to its transit and railroad research and development programs. WABCO Chairman A. King McCord told stockholders at a meeting in Pittsburgh that orders for railroad equipment began to increase rapidly in late 1965, and that bookings in March 1966 were three times more than the monthly average of orders in 1964 and early 1965.

Car supply improves: The box car supply on the Great Northern and Northern Pacific is "generally good," lumbermen reported last week, as a result of recent service orders issued by the Interstate Commerce Commission. However, they still complained of a tight car supply in southern Oregon and northern California.

Emergency order lifted: Field offices of the Interstate Commerce Commission have stopped giving emergency temporary authority to motor carriers to transport passengers or freight. General Temporary Order No. 1 authorized emergency transportation during the recent rail strike by the Firemen. It was the first time such an order was issued in connection with a work stoppage.

Rock Island moving operations: Rock Island's general operating manager and his staff—some 73 employees—are being moved to Kansas City from Chicago. However, the road's senior vice president of operations, T. W. Kelley, and his immediate staff, will remain in RI's executive offices in Chicago. The move is being made under a reorganization plan initiated by RI chairman and chief executive officer, Jervis Langdon, Jr. As of April 1, district operating offices in Des Moines and in El Reno, Okla., were closed, and their executive staffs will move to Kansas City.

New WABCO president: Lawrence E. Walkley, vice president-operations and a director of Westinghouse Air Brake Co., has been elected president of the firm. A. King McCord, who relinquished the title of president at his own request, was re-elected chairman of the board and will continue as chief executive officer of the corporation. Walkley joined WABCO in 1957 after 27 years with General Electric.

Timken rolls 2 millionth bearing: Timken Roller Bearing Co. began turning out its "AP" railroad bearing in 1954. This month it manufactured bearing No. 2 million. The company said that despite increased labor and materials costs over the past 11 years, the bearing sells at a lower price today than it did in 1954. Over 227,000 railroad cars are equipped with the bearings.

Transportation hearings scheduled: Hearings will be held in Washington April 28-29 on proposed legislation that would amend the Mass Transportation Act of 1964. The bill, introduced by Sen. Harrison A. Williams, Jr., (D-NJ), would aid commuter railroads with capital grants and provide subsidies for up to two thirds of out-of-pocket losses of commuter train, bus and subway operations. The subsidies would be available to companies that could conceivably show a profit within 10 years.

Crude talc traffic: Northern Pacific used 70 100-ton gondolas to move to port what reportedly was the first large shipment of crude talc ever transported from the U.S. to Europe. The shipment of 7,000 tons originated at the United Sierra Division of Cyprus Mines Corp. mine at Cameron, Mont., and was trucked to Three Forks, Mont. for loading on the NP cars. The talc then went to Portland, Ore. for overseas shipment. The mineral is used principally in the paper and pulp industry, and in ceramic plants.

Truck tonnage: Intercity truck tonnage in the week ended April 2 was 5.6% above that of the previous week, and 5.9% ahead of the volume in the corresponding week of 1965, according to American Trucking Associations.

Current statistics

Net Income	
12 mos., 1965	$815,000,000
12 mos., 1964	694,000,000
Carloading, revenue freight	
14 wks., 1966	7,556,546
14 wks., 1965	7,419,744
Freight cars on order	
Mar. 1, 1966	51,760
Mar. 1, 1965	34,703
Freight cars delivered	
2 mos., 1966	13,987
2 mos., 1965	13,053
Serviceable cars	
Mar. 1, 1966	1,400,754
Mar. 1, 1965	1,398,903

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THE ACTION PAGE

An open letter to President Johnson

Mr. President, your leadership is of great importance to the progress, achievement and strength of the U.S. economy. Your every word is weighed and examined carefully by the business community.

Last year, in asking Congress to pass the high-speed ground transportation research bill, you said:

"The last three decades have produced great technological achievements in air and highway transportation. Commercial planes today fly three times as fast as they did in the 1930's. Automobiles speed along modern highways at greatly reduced travel time. The progress of our rail transportation system, unfortunately, has not matched these strides."

If you meant only that rail passenger patronage has been drying up, we agree. If you meant that the rail industry is technologically backward (as some members of your Administration have been saying lately) we do not agree at all.

In fact, rail industry technological achievement since World War II has been downright aggressive.

The progress you described in air transportation would have been impossible without the $12,000,000,000 the government spent since World War II on airways and airports. Government also put up an additional billion to airlines in the form of outright subsidies in the same period. The highway progress you cited would have been impossible without the $175,000,000,000 invested by government in highways since 1946. Barge operators also benefited from government policy expenditures—some $11.5 billion since World War II.

And that was only half the story. As government promotion policies were building facilities and capability for railroad competitors on air, land and water—railroads were getting something quite different from government. Repressive rate regulation, barriers to industry diversification and merger roadblocks kept railroad competitive capability at artificially low levels. In fact, internal efficiencies produced by great technological achievements are what kept the railroads alive at all.

We are not adding our tears to the industry's too-well-soaked crying towel. We make these points only to illustrate the massive effects that public decisions have upon private progress in transport.

Further, are the achievements represented by jets, large highway trucks, autos and barge tows really more of an achievement than the diesel locomotives, microwave systems, computers, maintenance machines, the exciting new cars and other technological achievements that have revolutionized railroading since World War II? We don't think they are.

Practically every responsible economist involved in analysis of U.S. transportation policy since World War II has recommended elimination of minimum rate regulation. Mounting evidence indicates our economy is paying billions of dollars in excessive freight bills every year because of irrational divisions of traffic and movement of traffic by high-cost rather than low-cost carriers—directly as a result of government promotion policies described by the late President Kennedy as "chaotic."

The spread between rail costs and the costs of other modes (especially when social costs are added) is impossible to ignore. Increasing numbers of responsible thinkers are aware that railroads, despite external handicaps (and internal handicaps, too) have to be the transport foundation upon which our Great Society will stand.

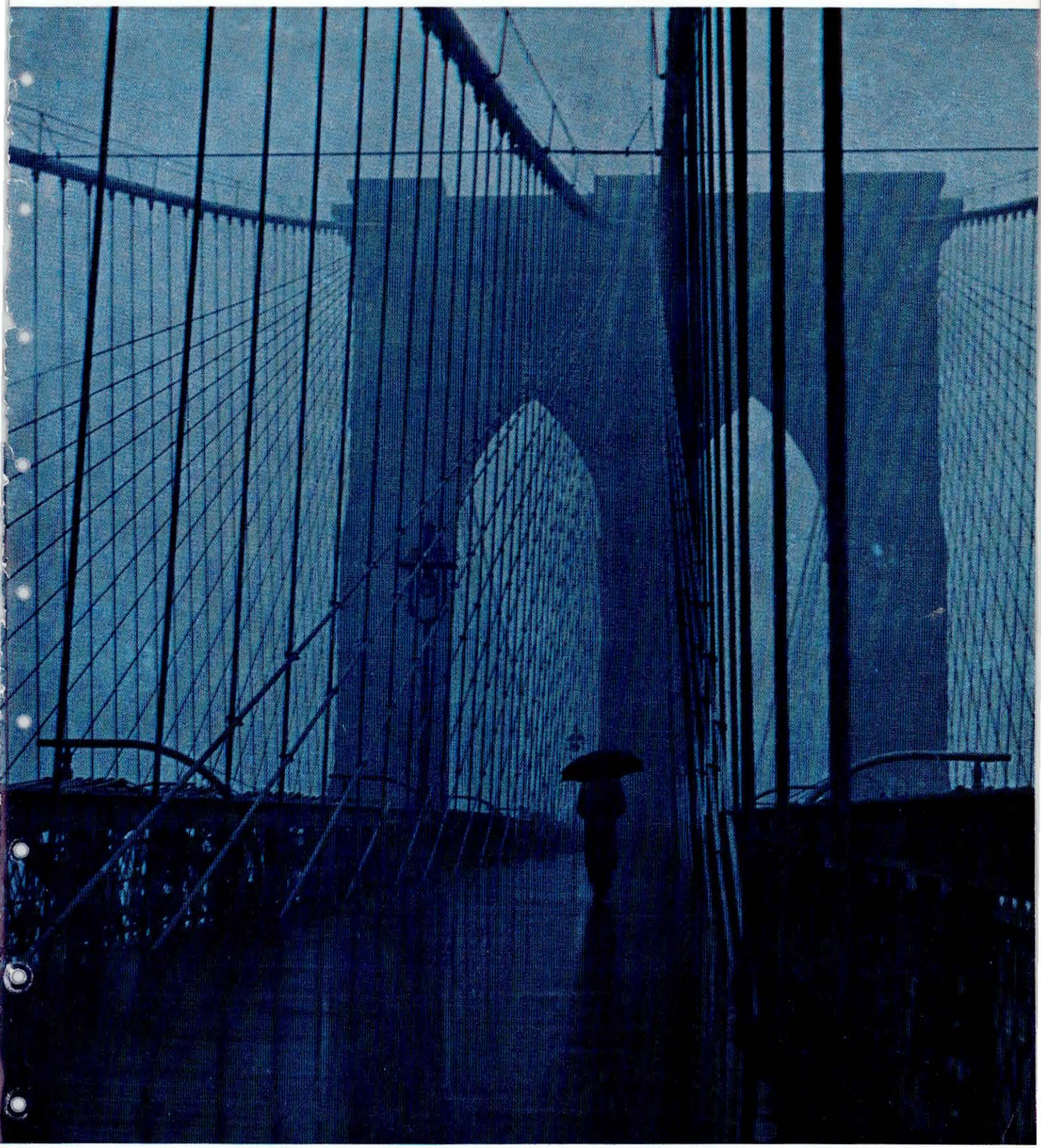
Your own Administration is directing an increasing amount of research to surface transportation. As the survey in this issue of Railway Age indicates, railroads and their suppliers are the most research-conscious of all transportation modes—and getting more so by the minute.

A praiseworthy achievement

The industry should be commended not criticized for its technological achievement. Railroads are refitting themselves as fast as earnings permit—and no taxpayer cash is involved in the process. And the fact that the industry has been technologically aggressive *and* been able to reduce charges 14% in the last decade (thereby saving U.S. consumers several billion dollars) is a fact of real consequence to future U.S. society.

The industry is more than willing to be shown what must be done to prepare for the renaissance in passenger traffic that many analysts foresee. Can't this be done without Administration spokesmen implying that railroads are technologically backward—when they really mean that government promotion policies for air and highway modes and the resultant sociology created by the automobile have just about killed off U.S. passenger trains? It is of some consequence, Mr. President. Policy decisions made because passenger patronage has declined are one thing—decisions made because the rail industry is technologically backward are apt to be in serious error.

Only a few products of man or nature have withstood the creeping onslaught of time so well.



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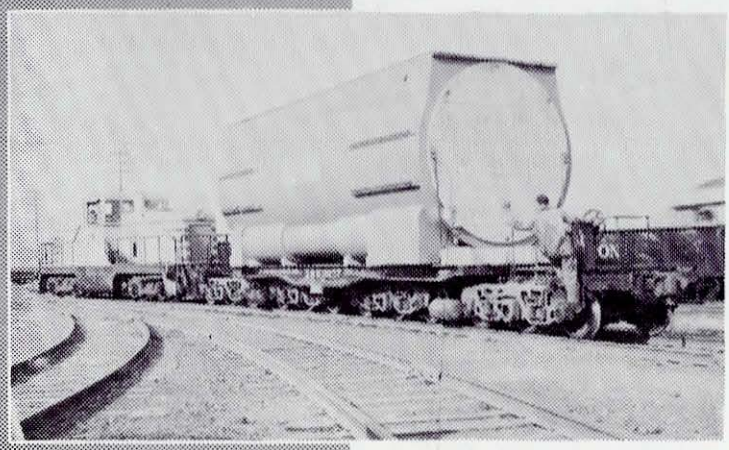

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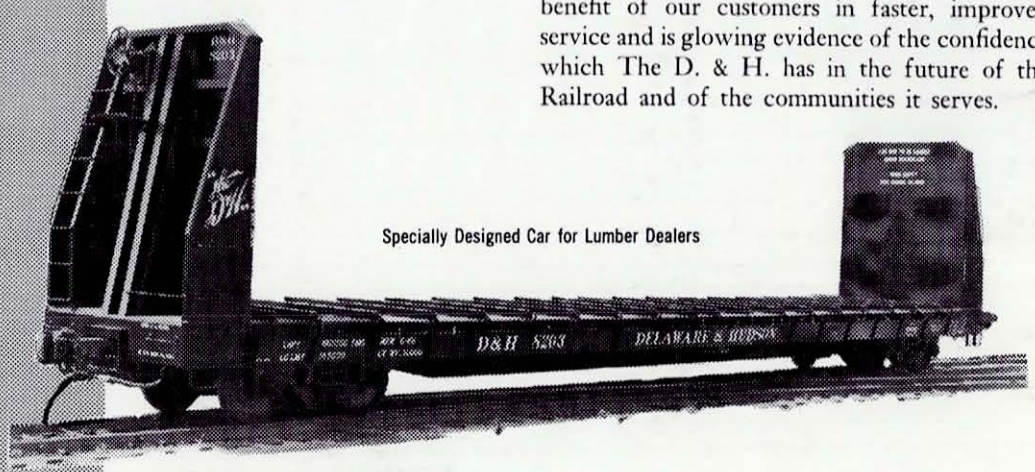

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